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THE
HORTICULTURIST,
AND
JOURNAL OF RURAL ART AND RURAL TASTE.

DEVOTED TO
HORTICULTURE, LANDSCAPE GARDENING, RURAL ARCHITECTURE, BOTANY,
POMOLOGY, ENTOMOLOGY, RURAL ECONOMY, &c.

EDITED BY A. J. DOWNING,
AUTHOR OF "LANDSCAPE GARDENING," "DESIGNS FOR COTTAGE RESIDENCES," "FRUITS AND FRUIT TREES
OF AMERICA," "COUNTRY HOUSES," ETC., ETC.

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JOURNAL OF RURAL ART AND RURAL TASTE.

VOL. V.

JULY, 1850.

No 1.

NO ONE pretends that we have as yet either a national architecture or national music in America ; unless our Yankee clap-board house be taken as a specimen of the first, and "old Susannah" of the second, fine art. But there is, on the other hand, perhaps, no country where there is more building or more "musicianing," such as they are, at the present moment. And as a perfect taste in the arts is no more to be expected in a young nation, mainly occupied with the practical wants of life, than a knowledge of geometry is in an infant school, we are content with the large promise that we find in the present, and confidently look forward for fulfilment to the future.

In almost every other country, a few landlords own the land, which a great many tenants live upon and cultivate. Hence the general interest in building is confined to a comparatively small class, improvements are made in a solid and substantial way, and but little change takes place from one generation to another in the style of the dwelling and the manner of living.

But in this country we are, comparatively, all landlords. In the country, especially, a large part of the rural population own the land they cultivate, and build their own houses. Hence it is a matter of no little mo-

ment to them, to avail themselves of every possible improvement in the manner of constructing their dwellings, so as to secure the largest amount of comfort, convenience, and beauty, for the moderate sum which an American landholder has to spend. While the rural proprietors of the other continent are often content to live in the same houses, and with the same inconveniences as their forefathers, no one in our time and country, who has any of the national spirit of progress in him, is satisfied unless, in building a new house, he has some of the "modern improvements" in it.

This is a good sign of the times ; and when we see it coupled with another, viz., the great desire to make the dwelling agreeable and ornamental, as well as comfortable, we think there is abundant reason to hope, so far as the country is concerned, that something like a national taste will come in due time.

What the popular taste in building seems to us to require, just now, is not so much *impulse* as right *direction*. There are numberless persons who have determined, in building their new home in the country, that they "will have something pretty ;" but precisely what character it shall have, and whether there is any character, beyond that of a "pretty cottage" or a "splendid house," is not perhaps very clear to their minds.

We do not make this statement to find fault with the condition of things; far from it. We see too much good in the newly awakened taste for the Beautiful, to criticise severely its want of intelligence as to the exact course it should take to achieve its object—or perhaps its want of definiteness as to what that object is—beyond providing an agreeable home. But we allude to it to show that, with a little direction, the popular taste now awakened in this particular department, may develop itself in such a manner as to produce the most satisfactory and beautiful results.

Fifteen years ago, there was but one idea relating to a house in the country. It must be a Grecian temple. Whether 20 feet or 200 feet front, it must have its columns and portico. There might be comfortable rooms behind them or not; that was a matter which the *severe* taste of the classical builder could not stoop to consider. The roof might be so flat that there was no space for comfortable servant's bed-rooms, or the attic so hot that the second story was uninhabitable in a mid-summer's day. But of what consequence was that, if the portico were copied from the Temple of Theseus, or the columns were miniature imitations in wood of those of Jupiter Olympius?

We have made a great step onward in that short fifteen years. There is, to be sure, a *fashion* now in building houses in the country—almost as prevalent and despotic as its pseudo-classical predecessor, but it is a far more rational and sensible one, and though likely to produce the same unsatisfactory effect of all other fashions—that is to substitute sameness and monotony for tasteful individuality, yet we gladly accept it as the next step onward.

We allude, of course, to the Gothic or English cottage, with steep roofs and high gables,—just now the ambition of almost every person building in the country. There are, indeed, few things so beautiful as a cot-

tage of this kind, well designed and tastefully placed. There is nothing, all the world over, so truly rural and so unmistakeably country-like as this very cottage, which has been developed in so much perfection in the rural lanes and amidst the picturesque lights and shadows of an English landscape. And for this reason, because it is essentially rural and country-like, we gladly welcome its general naturalization, (with the needful variation of the veranda, &c., demanded by our climate,) as the type of most of our country dwellings.

But it is time to enter a protest against the absolute and indiscriminate employment of the Gothic cottage in *every* site and situation in the country—whether appropriate or inappropriate—whether suited to the grounds or the life of those who are to inhabit it, or the contrary.

We have endeavored, in our work on "COUNTRY HOUSES," just issued from the press, to show that rural architecture has more significance and a deeper meaning than merely to afford a "pretty cottage," or a "handsome house," for him who can afford to pay for it. We believe not only that a house may have an absolute beauty of its own, growing out of its architecture, but that it may have a relative beauty no less interesting, which arises from its expressing the life and occupation of those who build or inhabit it. In other words, we think the home of every family, possessed of character, may be made to express that character, and will be most beautiful (supposing the character good,) when in addition to architectural beauty it unites this significance or individuality.

We have not the space to go into detail on this subject here; and to do so would only be repeating what we have already said in the work in question. But the most casual reader will understand from our suggestion, that if a man's house can be made to express

the best traits of his character, it is undeniable that a large source of beauty and interest is always lost by those who copy each other's homes without reflection, even though they may be copying the most faultless *cottage ornée*.

We would have the cottage, the farmhouse, and the larger country house, all marked by a somewhat distinctive character of their own, so far as relates to making them complete and individual of their kind; and believing as we do, that the beauty and force of every true man's life or occupation depend largely on his pursuing it frankly, honestly, and openly, with all the individuality of his character, we would have his house and home help to give significance to, and dignify that daily life and occupation, by harmonizing with them. For this reason, we think the

farmer errs when he copies the flagrant work of the retired citizen's cottage, instead of showing that rustic strength and solidity in his house which are its true elements of interest and beauty. For this reason, we think he who builds a simple and modest cottage in the country, fails in attaining that which he aims at by copying, as nearly as his means will permit, the parlors, folding doors, and showy furniture of the newest house he has seen in town.

We will not do more at present than throw out these suggestions, in the hope that those about to build in the country will reflect that an entirely satisfactory house is one in which there are not only pretty forms and details, but one which has some *meaning* in its beauty, considered in relation to their own position, character and daily lives.

EXPERIMENTS IN HORTICULTURE, NO. IV—GRAPES.

BY B., POUGHKEEPSIE, N. Y.

FOR the last ten years, I have had under cultivation from three hundred to five hundred grapevines. They comprised about twenty varieties originally, but have dwindled down to three, viz., the *Catawba*, *Isabella* and *Elsinburgh*. I still retain specimens of the best foreign grapes; but it is labor lost to attempt to produce fruit from them, in any quantity, in the open ground. The *Catawba* I esteem most highly, especially for wine. The *Isabella* is preferred by many as a dessert fruit, although my taste inclines to the former. The *Elsinburgh* makes a good wine, and is the most hardy of them all. Indeed, this last was the only variety which passed unscathed through the excessively cold winter of 1848-9.

Without attempting to detail the various modes of planting and training which have been tried, I will merely state that which has

proved most satisfactory. Take vines one or two years old, in the *spring*, and plant them in rows running north and south; the rows to be *six* feet apart, and the vines *eight* feet apart in the row. Within a year or two, at your leisure, prepare posts with bottoms of locust and tops of pine fence railing, seven and a half feet in length, and set one equidistant between every two vines in the rows, so that they will stand five and a half feet in height. Then procure galvanised wire, No. 12 or 13, and having bored five small holes through each post at distances of eleven inches, pass the wire through, draw it tight and fasten each end. The upper wire is to rest on the top of the posts, and be fastened by staples. Then paint your posts, and brace those at the extremities of the rows, to enable them to bear the weight, and you will have the foun-

dation of a vineyard which will endure for at least one generation.

I planted one hundred vines in this manner several years ago, and I am satisfied that I cannot improve upon the mode. The distance is ample, as it gives forty-eight feet surface for the roots of each vine, and nearly the same space of trellis for the fruit. The wire, being galvanised, will not rust; it makes no shade, and affords a convenient support for the tendrils to cling to. The rows, running north and south, give a fair proportion of sun to each side. The bottom of the posts are made of locust, for the sake of durability, and the tops of pine, for the sake of convenience in attaching the wires, and are painted to preserve them and improve the appearance. A considerable saving of expense can be made by *painting* the wire white, which can be done very rapidly by taking a coil and spreading it over a paling, or stick thrust through it, and applying the paint with an ordinary brush. The paint will preserve the wire many years.

Having thus planted my vineyard, I first proceed to train from each vine two horizontal arms along the lowest wire. At the next autumnal pruning these arms are shortened to four feet in length, and are always thus kept between two posts. After this I train from each arm four upright shoots gradually, from year to year, until they reach the topmost wire,—cutting in to one or two eyes the alternate shoots in alternate years. No rule can be laid down on this subject, as to the precise degrees of progression from year to year, as it depends much upon the vigor of each vine. The common error is to leave too much wood. It is an easy matter to cover one hundred square feet with a vine five years old; but it is perfectly certain that if properly confined to *one quarter* that space, it will produce a much more valuable crop of grapes. I have no doubt that a vigorous Catawba vine

can be profitably confined to forty square feet of trellis for thirty years or more.

In regard to pruning, which is the *great art* in the cultivation of this fruit, I have recently modified my views, and am gradually changing my practice. I find that the old notion, that spring pruning would cause vines to *bleed* to death, is entirely incorrect. I have pruned freely during the month of May of this year, as well as formerly, without the slightest injury. The advantage gained, is that you can prune after your fruit buds open, and show how many bunches of grapes they can produce. You can then cut down to the proper number of bunches for the strength of your vine, which is the true principle of pruning.

My general practice for the last five years has been to prune in November, and lay down the vines and partly cover them with earth or litter. This last precaution is taken to prevent the winter from pruning them a second time. For I had, on one or two occasions, lost nearly all the fruit buds between the knife and the frost.

The importance of severe pruning to insure first rate fruit, cannot be too strongly urged. A vine, even of the hardiest sort, if left to itself, will soon become worthless. An experiment was tried by a near neighbor, at my suggestion, a few years ago, upon a young Isabella vine of great beauty and vigor. It was trained upon an arbor, and in June showed two hundred bunches of fruit. The grapes continued to grow and look as well as mine, until the middle of July, when they began to fail. The result, in short, was that not a single bunch of grapes ripened, and for a year or two after the vine showed but small signs of life; and after a lapse of about seven years, and having been headed down to recruit its energies, it has not yet recovered from the shock. The only safe rule that I can adopt, is to direct my gardener to prune very closely in the fall, and then follow him

next spring, and cut out one-half of the eyes he has left.

In regard to preparing and manuring the ground, my experience does not accord with the rules laid down in the books. I have tried deep trenching, bones, sods, &c., according to the most approved directions; but I have not yet perceived the slightest beneficial results. On the contrary, my best grapes come from an ordinary soil of about one foot in depth, kept well manured by *street sweepings*, which I deem a *specific* manure for all kinds of fruit. The explanation may, perhaps, be found in the fact that my soil is a heavy loam with a clay subsoil, into which it is not beneficial for grape roots to penetrate. At all events, mine do best near the *surface*. My *strongest* growing vines have been very heavily manured with coal ashes.

Two years ago my Catawba grapes were much injured by the *rot*. In the autumn I covered the ground with ground *plaster*, at the rate of five pounds to a vine, and have not since been troubled in that way.

Last year I made a great variety of experiments in wine pressing,—beginning with cherries, and ending with quinces. Among the rest, I pressed about a ton of grapes, which yielded about six gallons to the hundred pounds. The *modus operandi* was substantially the same as that so well described by Mr. Longworth in a recent number of the Horticulturist, except that my grapes were not separated from the stems, and we added one and a half pounds of loaf sugar to a gallon of juice.

It does not, perhaps, become me to say much in regard to the quality of the wine; firstly, because I do not profess to be a judge—of wine, I mean; secondly, because I could not be deemed an *impartial* one. All I shall say is, that according to the taste of those who have tried the Catawba, it is considered as good, and quite as pure, as any foreign

wines brought to this market. If, however, I can find an express to forward a basket, the editor shall have an opportunity of testing the matter in *propria persona*.

Poughkeepsie, June, 1850.

Our correspondent's article is full of excellent practical suggestions, based, as usual, on actual experience. We hope it will lead others to favor us with their views on vineyards, which are becoming a somewhat important branch of agriculture. We agree with B. entirely as to the main principles he deduces from his own experiments, viz., that upright trellises, frames or poles, are the best supports for the vines; that the latter should be confined to a very moderate space and severely pruned; and that none but native grapes as yet have proved of much value in the vineyard.

He states very correctly that it is owing to the nature of his soil that *trenching*, ordinarily of the greatest value to the vine, has proved of little benefit with him. If something could be mingled with the subsoil, at the time of trenching it, to render it light and permeable by the air and roots, trenching would undoubtedly prove beneficial. Hence the great value of coal ashes for vines in a heavy soil, though they are nearly useless in sandy ground.

The samples of wine which our correspondent so obligingly sent us, we received in excellent condition. They were pure and sound, and some of them, (especially the Catawba,) of excellent quality. But from the amount of sugar per gallon added to the *must*, they are all *sweet* wines, which we think inferior to the *dry* wines made on the Ohio from the same grapes. Now light dry wines, like Claret and Hock, (the natural product of the Catawba, &c.,) require little or no sugar; and they cost less, and are more wholesome than sweet wines, like Muscatel, Malaga, &c. ED.

NEUMANN ON RAISING PLANTS FROM CUTTINGS.

PERHAPS the best work on propagating plants by this means, is a little volume published in Paris, entitled "*Notions sur l'art de faire les Boutures*," by M. Neumann, the well known chief of the hot-house department of the Garden of Plants. We shall give in our succeeding numbers, commencing with the following article, a translation of the most important part of this little work, so useful to the plant cultivator.

NO. I. GENERAL CONSIDERATIONS.—

The Creator has willed that plants should multiply themselves by their seeds; but man, still more to increase the riches of the vegetable kingdom, as if he found himself in too narrow a compass, incessantly assists Nature, whether he evokes the mysteries of artificial fecundation, or propagates species by grafts, layers, or cuttings. This last method of propagation has arrived at such importance in our days, that I have thought it my duty to to state the nature of the proceedings which practice, and a long study of the numerous plants intrusted to my care, have suggested to me. A cutting, properly speaking, is a part of a plant which, being detached, is placed in the ground, where, under the influence of different circumstances, it ought to develop itself, and produce an individual similar to the parent plant. Monocotyledonous plants will only strike by cuttings from their branches; but dycotyledonous plants offer for propagation, so to speak, all the parts which compose them—roots, branches, trunks, or portions of them, herbaceous shoots, and leaves. With but few exceptions plants struck by cuttings demand constant attention; a temperature and moisture proportioned to the nature of the subject are the conditions which ought especially to engage the attention of the operator; for the principal precaution is, to secure the cuttings at the same time from rotting and drying. With this end in view we keep them in media of equal temperature and moisture; we prevent evaporation of the soil, and arrest the perspiration of the cuttings. Plants which are soft-wooded, or have much cellular tissue, such as Malvaceæ, Ge-

raniaceæ, Solanaceæ, and others, take root more easily, and demand less precaution, than the delicate, resinous, milky, hard and dry-wooded species. Cuttings of the greater part of the hardy ornamental plants suited to the climate of Paris, will strike in the open air, if they are protected from winds and currents of hot air. Others are struck in pots upon exhausted hot-beds, or in a pit not much raised and ventilated. Finally, cuttings of exotics, able to grow only under the influence of a heat which reminds them of the conditions among which they naturally live, strike root in glass-houses made on purpose, or are placed, agreeably to their nature, either in a hot-house or green-house.

NO. II. SOIL PROPER FOR CUTTINGS.—

Different sorts of trees do not root equally well in all soils. There are some cuttings which can scarcely be made to succeed in saline earth, while others succeed in it very well. The soils considered the best for striking cuttings in the open air, are those which are free, sandy, and soft to the touch; of Fontenay-aux-Roses, for example, of Clamart, or of Massy. *Tamarix elegans* and *T. germanica* prosper in a soil rich in saltpetre; but the Ginkgo and Poplars cannot strike in it; these last succeed at Fontenay-aux-Roses. Cuttings made in glass-houses generally require to be planted in earth mixed with peat in preference to any other, but varied according to the nature of the plant. Whatever composition we use, we must take care not to employ it too dry or too moist; in the first case, the earth not being able to sustain itself in a convenient manner around the cutting, the latter falls or is displaced when we wish to water it; in the second case, the earth being too compact, it hinders the formation of roots; Nature makes vain efforts, and the cutting suffers, decays, and dies, in spite of its disposition to vegetate.

NO. III. CUTTINGS IN THE OPEN AIR.—

All our deciduous trees, and many evergreens, may be struck from cuttings in the open air, by the same process as that employed in the Colonies, if requisite care be taken. Thus in our Colonies, where there are no glass-houses for propagation, nor bell-glasses, I made cuttings entirely in the open air, in a bed shaded

with straw; these cuttings were watered at random every day, taking no other precaution than that of not disturbing their roots. This simple method, the only one, it may be said, in use in our Colonies, is far from offering the difficulties which present themselves under the latitude of Paris, to secure the striking of the cuttings of plants foreign to our climate. Here, in order to insure success, we take shoots and branches in full vegetation. In the Colonies, the gardener always chooses in preference the wood which has finished its growth. With us, on the contrary, there are plants whose cuttings in our glass-houses do not root unless they are quite soft, and just before the wood begins to assume its natural colour; such are *Semecarpus anacardium*, *Swietenia mahoganii*, *Euphoria lit-ehi*, &c. These cuttings cannot bear exposure to the air, even for a moment. They must be planted the moment they are taken off, and covered by a bell-glass. However, this treatment will not succeed with milky, gummy, or resinous plants, such as *Vahea gummifera*, *Araucaria*, *Euphorbia*, &c., whose cuttings, if placed in the earth as soon as they are taken off, seldom root, but almost always rot. Such cuttings secrete from their wounds a peculiar matter, which must be discharged before they are planted. For this purpose I put them upside

down in pots; I then fill the pots with rather moist earth, without pressing it in, leaving the wound alone uncovered. I leave them 24 or 36 hours, and sometimes more, in this position, until the superabundant matter which they contain is thrown off. I then wash the wound with a sponge, and the cutting takes root more or less easily, in proportion as the wound is clean. I know no tree from which we may make cuttings in the open air, with herbaceous shoots, without a bell-glass; but those herbaceous plants which have some appearance of wood, such as the *Pelargonium*, *Geranium*, *Cineraria*, and *Calceolaria* may be made to strike without heat, and under the shade of a wall. These cuttings are shaded with straw mats during the day; however,

they always succeed best in a cool frame. In order to make the plants which I have just named strike by cuttings, we commonly take the extremities of the branches after flowering. The soil which suits them best is peat mixed with well rotted animal or vegetable mould. Among Roses, the China, being the hardest, is propagated by cuttings in peat soil, with wood one year old; the other sorts strike in a hot-house, and under a bell-glass, for which purpose choice should be made of herbaceous shoots, taken from plants which have themselves been kept in a green-house.

NO. IV. CUTTINGS UPON EXHAUSTED HOT-BEDS.—There are some plants which cannot be multiplied effectually in the open ground, and which require a mild and uniform heat, in a still atmosphere, liking, however, a little light, which should be given

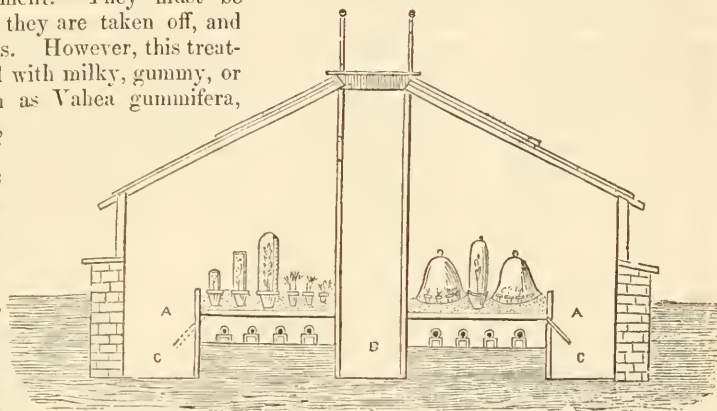


Fig. 1.—Propagating House.

them night and morning. The temperature which suits such plants when under propagation, is that which is found under the glass of an exhausted hot-bed. After we have permitted this bed to lose its greatest heat, we put over it a low frame; the pots containing the cuttings are then plunged in the soil of this bed. In this way we successfully propagate *Diosmas*, *Fuchsias*, *Heaths*, single *Camellias* intended for grafting on, and similar plants.

NO. V. CUTTINGS IN PROPAGATING HOUSES.—But the exhausted hot-bed is suited only to a limited number of species of plants. Many plants, even oranges, would not find there a heat sufficient to enable them to make roots. Plants whose nature it is to grow

under the influence of a high temperature, are struck in propagating houses built on purpose, in which an equal temperature is maintained day and night. This indispensable condition, which has always been an object of great care among gardeners, has now become much more easy to fulfil, in consequence of the use of hot-water pipes. The flooring of the frame under which the hot-water pipes pass, is covered to the depth of 4 or 6 inches with sand or tan; the pots for cuttings, which are plunged in it, are subjected to a heat of from 30° to 35° Cent. (87° to 98° Fahr.) for cuttings of such plants as, from the difficulty of striking them, require a high temperature, as for example *Xanthochymus*, *Myristica*, *Guaya-cum*, *Diospyros*, *Mangifera*, &c. Annexed is the section of a glass-house for propagation, such as I should recommend for striking cuttings in. Two pits, AA, are placed on each side of the principal walk B; CC are two walks all round, for the use of the gardeners. The flooring of the pits ought to be covered with sand or tan 4 or 6 inches thick, before receiving the cutting pots. Hot-water pipes pass under these floors and heat the material in which the pots are placed, as well as the pots themselves, and then discharge their heat into the air of the house by means of trap-doors placed on hinges, and opening on each side of the pits; by which we may regulate the surrounding temperature of the house. The dimensions of such a house would vary according to circumstances; we must only bear in mind that the cuttings ought to be as near the glass of the house as possible. The plan of this house, as here figured, represents an interior 4 yards wide, of which $1\frac{1}{2}$ yard is employed for the walks; but if the house to be constructed is to be narrower—3 yards wide, for example—a single walk in the middle might be managed. In a well-constructed propagating house we may strike cuttings all the year round.

No. VI. POTS FOR CUTTINGS.—The pots which we choose for cuttings are about $3\frac{3}{4}$ inches wide at the top; we prefer pots with small bottoms, so that when we turn them up to ascertain if the cutting has rooted, there is nothing to stop the ball from coming out. I submitted to the Horticultural Society of Paris, some time ago, a model of a cutting-pot which has since been common. I am glad to have made it known, because it has

contributed to the success of this part of horticultural science, which is now so generally appreciated. Fig 2, A,



Fig. 2.—Pots for Cuttings.

is an earthen pot, $2\frac{1}{4}$ — $3\frac{1}{2}$ in. broad, and $2\frac{1}{4}$ — $2\frac{1}{2}$ in. high; in the bottom there is a hole as in a common pot; this opening must not be obstructed by a crock, as is the custom, but we invert inside a little pot, whose bottom ought to be level with the earth in the pot, as in the cut. This little pot is to receive the heat. The hot effluvium of the tan, or the heat developed by the hot-water pipes, enters the hole of the earthen pot, lodges in the pot which is inverted, and keeps the cuttings, which are planted circularly around it, in the condition most favorable to their vegetation; this arrangement presents also a real advantage, viz., that the roots of cuttings do not force themselves one on the other, as in the old methods; they may easily be separated afterwards.

No. VII. BELL-GLASSES FOR CUTTINGS.—The green bell-glasses called Melon bell-glasses are generally used for propagation.

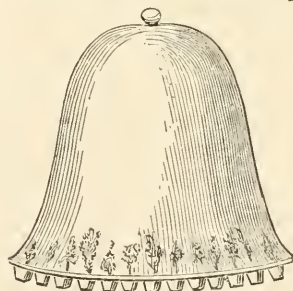


Fig. 3.—A Melon Bell-glass.

but recent and repeated trials, and frequent observation, have given the preference to the use of blue and violet coloured glasses, as being more favorable for the striking of cuttings. I give here the forms of the glasses used in the green-houses of the Museum of Natural History. Fig. 3 is a Melon bell-glass; it is useful, inasmuch as it serves to cover a good many little pots, and also for Rose-cuttings. Latterly other bell-glasses called angular (*à facettes*) have been in use, constructed in the same manner as hand-glasses; they are made of three different sizes,

an advantage which the Melon-glasses have not, nearly all of them being blown of the same diameter. Fig. 4 is a long cylinder, intended to receive cuttings of large size. Fig.



Fig. 4.



Fig. 5.



Fig. 6.

5 is a wide but low cylinder, under which you can place cuttings of small size, such as Heaths, Leschenaultias, Epacris, &c.

When it is required to propagate a delicate and valuable plant, the striking of the cuttings will be more certain, if we place each separately under a single glass with a flat head, as in Fig. 6, and which corresponds in height to the length of the cutting. This glass should be placed upon the pot in such a manner that it excludes all communication with the exterior air; this may be done by not leaving any empty space between the glass and the edge of the pot.

It is to be remembered, that when we propagate under bell-glasses, we must always proportion the size of the cylinders to the quantity of the cuttings, and their strength: thus, a small cutting should not be covered by a large glass; and in this last it will not grow so well alone as when there are many others. The process of striking cuttings seems to be certain in proportion to the smallness of the space in which they are to grow.

NO. VIII. CUTTINGS OF MONOCOTYLEDONS.—We have thought till now that cuttings of Monocotyledons were very difficult, if not impossible, to strike. I am convinced, from observations and repeated trials, that plants of this numerous class are among the most easy to multiply by cuttings of the branches. Experience has taught me that these branches of Monocotyledonous plants should be taken from wood of one year old or less, and that they root as well when they are 5 or 6 years old; but herbaceous cuttings, as

well as cuttings of roots, never succeed; which is the more remarkable, because in Dycotyledons the contrary is the case. I successfully multiply from cuttings of branches, *Dracæna*, *Freyinetia*, *Vanilla*, and many others.

Cuttings of Monocotyledons should be made with all their leaves, for it takes some time to replace these if they are cut off; however, there are some species whose long leaves are difficult to place under glasses. We may remedy this inconvenience by turning the leaves back along the stalk, a position which we maintain by tying them as may be requisite, as is shown in Fig. 7. Cuttings disposed in this manner seldom rot.



Fig. 7.—Branch of *Dracæna unibrachifera* prepared for a cutting.

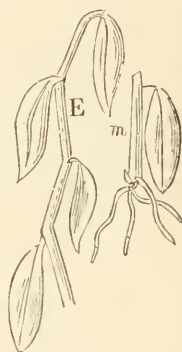


Fig. 8.

The operation consists in cutting away, for about 1-5th of an inch from their point of attachment, the leaves at the bottom of the cutting, all the length of the portion which is to be buried. It is not always necessary to take the extremities of branches for cuttings of this sort. If cut into pieces they succeed nearly equally well; it is thus that I multiply the *Vanilla*, in cutting the branch into pieces having two eyes each, as would be the case if the accompanying branch were divided at E, Fig. 8, keeping as near as possible to the point of attachment of the leaf, and taking care not to hurt the shoot in its axil. Fig. 8, m shows the lower end of a stalk from which the leaf has been cut, and the appearance of such a cutting when it is rooting.

NO. IX. CUTTINGS OF DICOTYLEDONS.—I have always had reason to think that there is not a Dicotyledonous plant which may not be multiplied by cuttings, either of the roots or stems; by herbaceous shoots, or even by detached leaves.

CUTTINGS BY ROOTS.—Cuttings by roots, although long known, are not generally used by our better horticulturists; this mode, however, seems sufficiently efficacious to fix the attention of those who study the art of multiplication. I have several times had occasion to mention the case of *Dais Cotinifolia*. The roots of this plant, cut into small pieces, and spread on the earth of a pot in a hot-house, gave as many young plants as there were pieces of the root. I do not doubt that we may succeed in making cuttings of the soft wood of the *Dais* equally well; but I have never succeeded with the branches when the wood is hard.

I have already said that *Paulownia imperialis* may be struck from herbaceous cuttings produced in a green-house; the manner of striking cuttings of the root of this tree is not less easy. Portions of the roots which vary in diameter from $\frac{1}{4}$ to $\frac{3}{4}$ of an inch, and in length from 1 to $2\frac{1}{2}$ inch, take root well. The month of March is the most favorable time for striking these cuttings; for in February they often rot, and the greatest care is necessary to save them. The first seed *Paulownia* which I sowed having only produced me one individual, I perceived that this plant when kept in the pot produced so few buds as to deprive me of all hope of multiplying it quickly. This led me to try cuttings from the roots, which perfectly succeeded, as the innumerable plants now seen in the nurseries sufficiently prove. The shoots of a *Paulownia*, struck from root cuttings, came out round the root, as is seen in Fig. 9, N.; this method of proceeding gives us the facility of splitting the roots into several pieces, which, separately, strike as well as an entire root, Fig. 9, O. When the shoots, which are developed upon the root, have attained a length of an inch, or

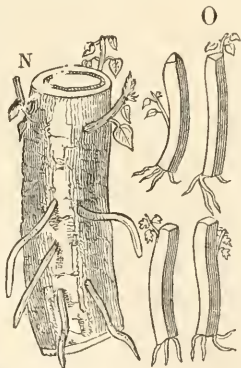


Fig. 9.—Cuttings of a *Paulownia imperialis*.

an inch and a quarter, we cut them above the two first leaves which appear; the detached portions are the cuttings, which are placed in a propagating

pot, just sufficient to keep them upright, taking especial care that the earth is not too dry. When the cuttings have once taken root, and attained some vigor, we cut off the head, which we again place in the earth; thus we obtain two plants from the cuttings, both of which will form trees. During this time the root of the *Paulownia* gives other buds, which are subjected to the same operation; but it is useful, in order to draw the sap, to allow a bud to remain upon it, which at a later period, if left to itself, forms a stronger plant than the others.

As soon as we perceive that the last cuttings of which I have just spoken have taken root, we place them in a larger pot, and these pots are placed in the green-house, in a spot the least exposed to currents of air; the young plants will flag a little, but they soon recover. When they have begun to vegetate, we take them from the green-house and put them in a half shaded cold frame, where a little air is allowed to enter if the sun is too hot; we thus accustom the *Paulownia* to support the rays of the sun and the action of the air; and, as soon as we think the cuttings sufficiently strong, we plant them in the open ground. All these successive operations take place so quickly, that a cutting made in March, and which is 4 inches high when it is first planted in the open air, attains by the following autumn the height of 1 foot or more, supposing that it has been planted in a soil suitable to its nature, and has been sufficiently watered.

No. X. There are other plants whose roots send out, contrary to the *Paulownia*, their buds upon the cut itself; this is remarked in *Maclura aurantiaca*, Fig. 10. They are formed between the wood and the bark by an innumerable number of exceedingly minute bulbs, which turn green and produce the buds. The cuttings of this plant strike very easily in the open air, following the same method of proceeding as in *Paulownia*; the large end of the root must be placed even with the earth or nearly so.

The *Cydonia japonica* is only multiplied by layers. The difficulty which this method offers for striking has not permitted this plant, up to the present time, to be as much distributed in ornamental gardens as it ought to be. But if we strike from the roots, results will be obtained much better and expe-

ditionously. If we cut the roots the size of a pen, into pieces 2 or $2\frac{1}{2}$ inches long, and plant them upright, we shall have the same year as many plants as there were pieces planted. These cuttings should be made in the open air, along a border or strip of peat, without any other covering than the soil where they are to grow. If we plant them vertically, we should cover them very slightly with earth; and at the first watering the cut will be uncovered. If we place them horizontally, they should be covered with earth about one-sixteenth of an inch deep. This last method succeeds equally well, but it is less certain than the first.

I have here mentioned these few species only to show what advantage we may derive from the method of multiplying dycotyledonous plants by cuttings of the roots; the good results which I have just pointed out will encourage, I hope, other attempts of the same nature to be made upon other plants, whose multiplication upon hot-beds has been attended by little or no result.

At the time when I was about to send the present treatise to the press, I discovered a new fact in corroboration of what I have stated, and I feel obliged to publish it. During the last six years, I have many times tried to strike an *Araucaria* from cuttings of the roots; up to this time, I had had no satisfactory results, but to-day, 10th May, 1844, I perceive that the cuttings of the roots of *Araucaria Cunninghami*, $\frac{3}{4}$ inch in diameter, and about $2\frac{3}{4}$ to 3 inches long, planted in October, 1843, are at last sending forth shoots. I attribute my failure up to this time, to the presence of the glasses with which I covered the cuttings: the concentration of air charged with an excess of moisture makes them perish. In the first place, the pots which contained the roots, were, in October last, plunged into tan still impregnated with a gentle heat; perceiving in March that the earth in the pots was decomposed, I changed it, without being



Fig. 10.—Cuttings of *Araucaria aurantiaca*.

able to distinguish the least sign of vegetation on the cuttings. The pots were then placed upon a bench and exposed to a moderate temperature; in April these pots were placed upon a warm bed of tan; and it was this, doubtless, which, to my great surprise, a month afterwards, excited vegetation.

All cultivators who know how to manage the *Araucaria* will, perhaps, doubt the truth of this phenomenon; but if they are willing to convince themselves by testimony of their eyes, I shall be happy to present them with a palpable proof. The realisation of this remarkable experiment, which nobody, I believe, has before made known, will, I hope, become a fact of great importance both in horticulture and agriculture.

If, as I have reason to believe will be the case, this mode of cuttings by roots succeeds as well upon all the species of the beautiful family of Coniferae, the new Pines of the Himalaya and of other countries, which would for a long time have remained scarce, may soon be propagated with certainty; and I dare affirm, that the plants raised from cuttings of the roots will form trees as well constituted as those produced from seeds. I am going to follow up my experiments upon *Araucaria excelsa*, being nearly certain at the outset that I shall obtain the same results as I did upon *Araucaria Cunninghami*. The autumn does not seem to me the best season for this sort of operation, it ought to succeed best in spring; a close observation teaches us this.

There are some plants which are always kept so much the more scarce, as it has been impossible to multiply them even by the last process; such, for example, as *Halesia dipτέρα*, of which I have never been able to save a single layer once detached from its parent plant, notwithstanding these layers have been well rooted, and under the constant care of the operator. Likewise, we have never obtained a result of the grafts of *Halesia dipτέρα* made on tetrapteris. However, I have reason to believe that cuttings of the roots will strike. The stock of *Halesia dipτέρα* which exists in the *Jardin des Plantes*, begins to give fertile seeds. Let us hope that soon we shall be able to obtain from some individuals seed of this beautiful shrub.

EFFECTS OF LOCALITY ON TEMPERATURE.

BY TARDLEY TAYLOR, LOUDON CO., VA.

IN the last number of the third volume of the *Horticulturist*, is a short communication from JAMES GRANT, Davenport, Iowa, giving some account of the cold weather in the previous winter. Mr. GRANT considers it as disproving the opinion of a former writer, that peach blossoms are always killed when the thermometer is 14° below zero. He says "the trees protected by our bluffs will have as much fruit as they can hold. For days, during the winter, the thermometer was 20° below zero. The preservation of our trees was probably owing to deep snows and uniform cold weather." There are so many modifying influences, in respect to cold weather, caused by difference of elevation and exposure, either east or west, the presence of large borders of water, protection by bluffs, or other elevations, &c., that it is difficult to calculate the effect of cold on blossom buds, until ascertained by actual results. Were a series of observations made on such occurrences, in different sections of our widely extended country, giving minutely the situation, difference of elevation of places, and of all other circumstances bearing upon the subject, with the effects in each case, much information might be elicited; and that branch of meteorology would not only be better understood, but the probable effect of different localities for particular fruit trees be ascertained with more certainty.

With this view, I propose furnishing for the pages of the *Horticulturist*, our experience of the cold of last winter, with a theory of its effects, corroborated by our previous experience. This district of country is peculiarly liable to great changes of temperature, situated as we are in the first valley between the two

first ranges of mountains above tide-water, with the Blue Ridge—that great feature in the Apalachian system of mountains of the Atlantic slope—on the west, and one of its spurs—the Catoctin mountains—on the east. This valley has an elevation of from 4 to 600 feet above tide-water, while the mountains rise from 2 to 600 feet above the valley. Such difference of elevation is frequently marked by great difference of temperature, even at the same time. The peaches are often killed by the frosts of spring or the cold of winter, in the lower grounds, while on high situations or on the mountains, they are rarely injured by either. Indeed, in some places a crop may be calculated on with perhaps as much certainty as in any part of our country, where frosts are liable to injure them at all. When the N. W. winds prevail, they bring the air of the Alleghany mountains to us, modified, it is true, by mixing with the air of the valley over which it passes, but still often in winter exceeding cold. A prevalence of south or southeasterly wind in a little time will bring the warm air of the Atlantic or of the Gulf of Mexico, and produce an opposite extreme. Hence, the variations of temperature here are often great. But the thermometer never falls as low in high windy weather, unpleasant as it is, as it does in calm weather, after a snow has fallen. Last winter the snow fell to the depth of several inches, and the clouds passed off without wind, and it continued calm for several days, when one morning the thermometer indicated 14° below zero, and it is probable, from the effect produced, had it been ascertained in our lowest valleys, it would have been much lower. My orchard has a

difference of elevation of about 80 feet, and the peach trees on the lower part did not produce hardly a single blossom, while trees on the highest ground had a good supply of bloom. The small branches of many on the low ground are killed, and even some of the apple trees there are injured, as if by the extreme cold weather. The heart cherries, though on higher ground, have suffered; some of their blossom buds remain undeveloped, and even where the bloom was considerable, there are very cherries to be seen. The morello cherries do not seem to be injured, and the apple trees had a heavy bloom. They are all much later than usual; the peach did not come into full bloom before the 25th of last month, about three weeks behind the usual time. On all high situations in this vicinity, the peaches promise a full crop, while in all low ones, no blossoms were seen.

After examining the effects, the theory seems to be this: When the ground is covered with snow, so as to prevent any radiation of heat from the surface, and the air is perfectly still, the caloric in the air [i. e., the warmer strata of air,] will rise higher and leave the cold air in the valleys below. This being continued for several days, must produce a great degree of cold there. But had there have been any wind, this separation of the air into colder and warmer strata, would not have taken place near the surface of the earth, for it would all have been mixed up, and have resulted in a uniformity of temperature in all places alike.

In the winter of '34-'5, we had a snow here near eighteen inches deep; the ground was not frozen when it fell, and it continued calm weather, without any wind, for near a week, when one morning the thermometer in low situations fell to 20° below zero, a degree of cold never witnessed here by many of us before. The peach trees suffered severely; many of them were almost killed;

nearly all the smaller branches were destroyed, and in low situations they only put out shoots, when they did, far back on the larger branches. In this case a surprising difference of temperature was exhibited on different levels. While the thermometer in the valley near the west side of Catoctin mountain indicated 20° below zero, one at Mt. Gilead, on the mountain perhaps 200 feet above, and only a few miles distant, was only down to zero. And the different effects upon the peach trees in this instance, in the two extremes of level, would seem to confirm such a difference of temperature, for on the mountains they were but little injured.

Another remarkable instance of the same principle, occurred here in the spring of '34. Between the 13th and 17th of the 5th month (May) of that year, we had a succession of frosts that froze the ground of nights, and formed ice of the thickness of window glass. The forest trees were out in leaf, many of them nearly full grown, and with young shoots six or eight inches long, and the peaches were as large as ripe currants. A destruction of fruit was the consequence for that season, and the effect on the forests in some instances was remarkable. I noticed a few days afterwards, in a small valley or ravine near Alexandria, that in the bottom of the valley, and up the sides of the hills to a certain level, the young leaves and shoots were entirely killed, and looked as if scorched by the fire, while above that level they were still alive. This level, in looking up the valley, as there was considerable size to it, reached the bottom of it, and was visible no further, while down the valley it passed along the sides of the hills some distance from their base, and exhibited the fact of many trees that stood below the level of this line, having the leaves and shoots entirely killed on the lower limbs, while those on the higher branches were still alive.

It would seem from the above facts, that a

temperature of 14° below zero was sufficient to destroy the blossom buds of the peach, for the situation of the thermometer was some distance below the line of level where the blossoms were general. And perhaps were the difference of elevation noted in the communication alluded to from Iowa, it might account for so low a temperature not destroying the peach buds there, particularly if the weather was calm. We have noted here, even in sum-

mer, that two thermometers, one situated about 40 feet above the other and less than 100 yards apart, both equally exposed, would indicate a difference of 5 or 6° ; the lower one would show that much cooler temperature in the morning, while at noon it would show that much warmer. than the other.

I remain thy friend,

YARDLEY TAYLOR

London Co., Va., 5th mo., 1850.

THE ZINFINDAL GRAPE—THE CURCULIO.

BY G. GABRIEL, NEW-HAVEN, CONN.

In the June Horticulturist, page 568, I am represented to have stated, with two other gentlemen, that the Zinfindal grape is better adapted to out-door culture in Connecticut than the Isabella. This is a mistake. *I have never entertained such an opinion.

I have cultivated it several years in a cold-house grapery, where it does well. I have also seen it cultivated in the open air in this city several years. It needs protection in the winter, like the Miller's Burgundy, and the fruit grows in a similar compact manner. In the grapery, it requires severe thinning. Mr. ALLEN recommends taking out eight of every ten berries, which, however, I think, is rather more than I have done. A grape requiring so much attention, would be a source of disappointment if recommended for general cultivation.

I am pleased to notice so many turning their attention to the curculio. I am confident it will have to surrender its claim on the plum. Indeed, it would be humiliating to our superiority—standing at the head of animal creation—should the united pomological forces of the country allow the ravages of this little *impertinent* to continue. I am trying several experiments this season, more

simple and easy than the one I reported to you last autumn, of which, if successful, I will send you some notice in due time.

My experiments at present are based upon this simple theory, viz., that the curculio is endowed with sufficient reason or instinct to provide, like other animals, for the continuance of its race, and will deposit its eggs *only* where its young may reach the ground and make their way into it.* If this be true, paving, iron shavings, or a cloth suspended from stakes under the tree, or anything else that will prevent the young from entering the ground, will determine the curculio not to lay its eggs there. A gentleman told me not long since that he had plum trees standing by the side of water, the branches of which hung partly over the water and partly over the dry ground, and that the fruit over the water was never attacked by the curculio, while that over the dry ground was; so that those not liking the other remedies may use

* Any of your readers may call to mind other insects that show the same sort of intelligence. Why does the clumsy parent of the canker worm climb from the ground fifty or a hundred feet, to the ends of the branches of the loftiest elms, to lay its eggs? Why, plainly, that its young may be where young and tender leaves first appear. Who has failed to notice the ingenuity of the honey-bee, building its comb just in that most capacious, and yet most compact form, demonstrated by science to be the most perfect? The forecast and contrivance of many insects elicit our admiration and wonder.

water, if they can. It is not a very numerous army to contend with; a large portion must perish from the egg to the perfect insect. Judge DARLING, (an experienced entomologist,) used to say they deposited about thirty eggs each. Where their marks are numerous, they themselves are but seldom

seen. I believe their eggs are deposited during the day, as I have several times caught them in this business. These eggs may be destroyed, i. e., the punctures cut out, with any pointed instrument, and the plum will heal and mature. G. GABRIEL.

New-Haven, June, 1850.

CRITIQUE ON THE MAY HORTICULTURIST.

BY JEFFREYS, NEW-YORK.

YOUR LEADER.—*A Spring Gossip*.—Why, my dear sir, you must have been dreaming when you wrote that mild, flowery, sun-shiny article! for that venerable personage, “the oldest inhabitant,” never saw such a spring before. How it may be in your own “Highland garden,” I know not; but with us in the city, and so far as I have ventured to to poke my nose into the country, the weather has been a perfect budget of abominations for gardeners and farmers. Even the great Horse Chestnuts, in the church yard of old Trinity, whose roots luxuriate deep among the human dust below, are hardly in full leaf, (May 20,) to say nothing of the Elms and the Maples, the Limes and the Catalpas; while Thorburn, and all the other Hyacinth and flower dealers, are fretting and fuming at the “extraordinary cold season,” while shivering over their unoccupied counters. However, I shall soon venture out into the fields—even if with great coat and mittens—for the summer won’t postpone its arrival, whether warm weather does or not. But thus far there has been no “poetry” in the season, if it exists “in the soul.” Even in the latter case, I can’t feel it as yet. If I did, I would make an effort to echo some of your bird-throated warblings.

Fruit Culture at the South.—Why, my good Doctor PHILLIPS, will you so misunderstand me? I simply mean to say, that

every locality, as a *general rule*, will originate, from its proper seeds, its own best (on all accounts) productions—be they fruits, grains, or vegetables. And so I think is the weight of proof, not that I object to introducing the *better* kinds from other localities, when the desired standard of excellence does not exist at home, provided they may become acclimated and naturalized to answer the purposes; but I would encourage by all means the production from seed of the *best* varieties, which under all circumstances can be depended on for domestic use. Meantime, cultivate the good kinds from abroad that you can successfully.

Hints for raising Seedling Pears.—I wish that some of our American pomologists would go into a systematic plan of producing *new* fruits, as Mr. WALKER suggests. Something might thus be grown, if not superior to the excellent new varieties already originated here, at least *proving* that the thing may be done by *design* as well as by accident, as most valuable kinds have already originated.

A few words to beginners.—I have no personal acquaintance with Mr. BEECHER; but I never saw an article of his on the garden, or its fruits, but was worth a year’s subscription to any paper which such an article adorned. He is here, as always, to the point exactly. Of all things, do I love to hear people talk

straight out, as they mean. Each word of this extract will be felt as living truth by every *real* gardener in the land. Why, it would tire me to tell you, and you to hear me, of the thousand and one duplicate, triplicate supplies of plants, and shrubs, and flowers, that I have yearly given away—(I like to give away things that I can well spare, to those who will *care* for them)—until my patience was exhausted, to those negligent, gossiping people, who are eternally begging and never caring for whatever they get. No; this is *not* charity. I *have* begged things myself—now and then; but I always feel ashamed to do it, for fear some mishap might occur to them; while there are your regular, systematic beggars—and folks who profess to be *somebody*, too—that are a pest to all good neighborhoods. But Mr. BEECHER has given the whole story so well that I'll not add another word.

The Yellows caused by an insect.—If Miss Morris be in error in her suggestions of the "insect causing the yellows," we will thank her for her keen observations in entomology. Would that many others of our lady cultivators would spend their leisure hours in speering the ills our fruits are heir to, and give us the results of their discoveries. A new and valuable fund of knowledge would thus be opened to us. I trust her graceful pen will be often found among your pages.

The Poetry of Trees.—Welcome, hearty old CHRISTOPHER! The "banks and braes of bonny Doon," the "castled crags," or the Highland locks which immortalize his beloved Scotland, are as familiar to him as the clustered beauties of his own retired cottage grounds at Villeray; and all, as native to the discourse of his charming pen as the lectures from his professor's desk in Edinburgh, or the *Noctes Ambrosiana* from his chair editorial in Blackwood.

What a mine of wealth, in all that associates

a country with what is bright, and beautiful, and classic, and interesting, is such a man as John Wilson! Perhaps no other land can boast two men, who have, coupled with acquirements and productions of the highest order in their several callings, shed such a halo over the several characters of their country, as Sir Walter Scott and Professor Wilson. And now, that you have given this most beautiful "Rhapsody" of the latter, it would, at a fitting time, be equally edifying to reprint, in part, or in whole—for it is too long for a single number—Sir WALTER'S admirable essay alluded to by the Professor. Although not, perhaps, of general application throughout our country, it is full of valuable suggestions to all tree-planters, and would be read with surpassing interest by many of your subscribers.

Design for an octagon house.—"There is nothing new under the sun!" said the wisest of men. But SOLOMON, we venture to say, had never then seen an octagon villa. If he had, I have little doubt it would have been the subject of a special chapter in the records of his wisdom!

The story is told of a spectator at the feats of an eastern juggler, that when, on the accidental explosion of one of his pyrotechnics the audience were blown out of the building, the poor fellow looked up in utter dismay from amid the rubbish around him, and asked what was to be the next part of the performance. This octagon, I take it, is one in the series of *building* performances. I sha'n't talk about this house.

Overgrown catalogues.—This article was written in London, but would be equally applicable, were it written at Boston, New-York, or Philadelphia. Let any one take up a great many of the printed catalogues and advertisements of an American nurseryman, and he would require a special interpreter to select the kernel of wheat from the bushel of chaff

there presented him. I am not disposed to be too severe upon the good proprietors of many of our popular nurseries, who seem to be thus actuated by a vain spirit of rivalry, but I fancy that if called upon to furnish specimens of *all* the choice and various samples advertised, they would be sadly puzzled to give the originals. Some rare stories might be told of these matters, if the various applicants for fruits, plants, and flowers, would but tell their experience.

I wish that the whole fraternity of nurserymen in our country would read and apply the advice of this article; and then, instead of an array of sounding names, which tend only to bewilder and mislead the uninitiated, our practical fruit proprietors could rely on something tangible and to the purpose, for their wants; for I now venture to say, that nearly, if not quite one-half of the articles sent from them prove nearly worthless, or have to be reworked by the cultivator, before he can derive any benefit from them. This should be a subject of action in your next pomological congress; and it only requires a little moral courage and independence to reform what is fast getting to be a crying abuse in our fruit propagation. The public will, most certainly, respond to it, and the nurserymen will as certainly find their account in it.

Agricultural improvements.—I have known a man pay fifty guineas for one of Morland's horse pictures, or Landseer's cattle pieces, to hang up in his hall or parlor, that had no more true knowledge in the originals from which they were painted, than an Esquimaux Indian has of growing pineapples. Of this class is *not* LEWIS G. MORRIS. *He* loves not only the *pictures* of fine cattle, to adorn his dwelling, but is enthusiastically fond of the animals themselves—to keep and propagate them in all their purity and excellence, as well as to embellish his park and lawns with such living ornaments.

I am very thankful that you have inserted this notice in the *Horticulturist*, as it has given me an opportunity to touch a subject that I should hardly have ventured to introduce by itself into your paper. But it is one as intimately connected with the *furnishings* of a complete genteel country residence, as any other—more so, in fact, than almost any beyond the immediate decorations of the pleasure grounds and buildings, because of its great utility, in example to the country at large, as well as the beautiful living pictures that nothing else will supply.

In Great Britain, where they *understand* these things—where they are educated to it—where every *accident* of fortune does not assume to give law, and tone, and sanction to taste and fashion in country life and residence—this matter is carried out as it should be. There, no genteel country establishment, where any considerable number of acres are embraced, is complete without its Southdown, Leicester, or Cotswold Sheep; its Shorthorn, ~~Leam~~, or Alderney Cattle, to crop the grass in its lawns and parks, and give those delightful living touches, without which the landscape is bare and wanting. But how many in this country, amid all the extravagant outlay, worse than useless in many cases, have the taste and discrimination to do it? HENRY CLAY of Ashland, DAN'L WEBSTER of Marshfield, have done so, and many other gentlemen of less note, but perhaps of more wealth, and others of less, have done so, and in this have shown their true taste and patriotism, a source of pleasure and gratification to themselves as great as any other; but as a rule, we Americans are the veriest clod-hoppers in existence, in our skill and knowledge of many varieties of fine domestic animals. And yet, those gentlemen are often the subject of ridicule for their vulgar predilection (!) in thus indulging an exalted taste, to the "outer" multitude who affect a superior appreciation of gentility!

Nor are our American women—yes, JOHN QUINCY ADAMS says “women”—a whit behind our men, in their squeamish notions of country gentility, who would probably *die* of a thick shoe, if obliged to wear one! In a past paper, you gave an extract from the late Mr. COLMAN, in the portrait of an English Duchess, in country life. How many such—bating the high birth, breeding, and education of the English women—can be counted among our *aristocratic* country residents? and all, the effect of a mistaken notion in education—artificial, unnatural, and most wretchedly misjudged. The thing is all wrong in both sexes, and so I fear it must remain, for reasons which I may give hereafter.

I will close this by an illustration: A young gentleman—he would dislike to be called less—the son of a wealthy man, who had furnished him with a five hundred acre farm, and was then erecting upon it a house to cost 25 or 30,000 dollars, and in the construction of which his builder could have cheated him five thousand, and he be none the wiser for it, at the suggestion of a friend, went to purchase of a neighboring resident a few choice, high-

bred sheep, to put upon his lawn. Their value was ten to twenty dollars each; and yet this *gentleman*, who intended to furnish his house with costly furniture and statuary, for which unlimited orders, as to cost, were sent abroad, higgled at *three cents* a head in the price for the sheep, when the owner of them—and really beautiful animals they were—had already offered them for two-thirds of their worth! Great country, this—and “extensive people,” some that live in it! Strain at the gnat, and so forth, and so forth!

Horticultural Criticism Criticised.—Three mortal pages of closely printed brevier type! Well, that will do. “The sargeant read me the chapter about Nimrod, the mighty hunter, the night before my christening, and a mighty *aisement* it was, to listen to any thing from the Book!” Thus discoursed BETTY FLANNEGAN HOLLISTER to NATTY BUMPPPO, before the bar-room fire in Cooper’s “Pioneers:” and I trust that Mr. LEUCHARS, having now taken his revenge, feels a little “*aise-ment*.” If *he* is gratified, I am—certainly.

JEFFREYS.

July, 1850.

DESIGN FOR A RURAL SCHOOL-HOUSE.

IN a previous volume of this journal, we have endeavored to point out the many advantages that would result from an increased attention to the design and arrangement of country school-houses.

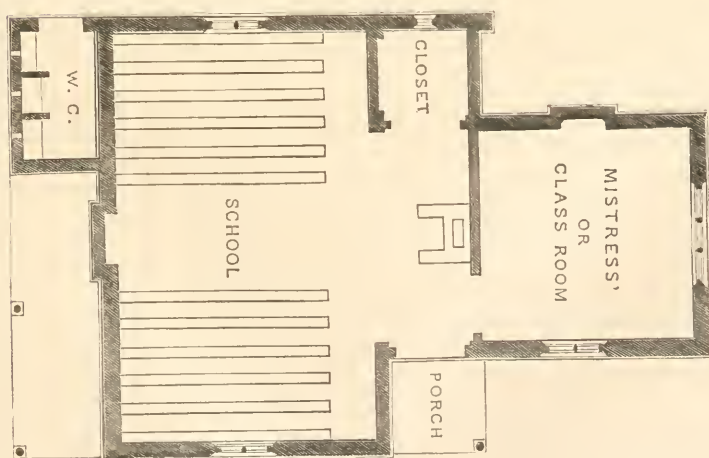
Barnard’s School Architecture, a most useful and valuable work, adapted to the United States, which has already found a large circulation, is doing much towards enlightening the public mind on all points relating to this subject. Not a school district in America should be without this work; and we are glad to find that JAS. S. WADSWORTH, Esq., of

Geneseo, so well known for his liberality and sagacity on all matters connected with popular education, has caused a large number of copies to be distributed in the various school districts of the state of New-York.

The district school-house, which ought to teach youth lessons of order and beauty, as well as the “fundamental branches” usually taught there, is perhaps the only public building in the country which exhibits utter neglect. In New-England, this reproach is fast passing away, and public school-houses, admirably designed, well arranged, warmed,



RURAL SCHOOL HOUSE.



[Hort: July 1850.]



ventilated, and fitted up in an excellent manner, are to be found in the neighborhood of many of the larger towns. Boston is in the advance in this matter; and we hope it is a "notion," that will rapidly spread to other parts of the country.

The FRONTISPIECE for this number is a reduced copy from a design in a beautiful quarto volume, on schools and school-houses, by H. E. KENDALL, Esq., architect, lately published in London. It represents a small school-house, in a style admirably suited to harmonize with rural scenery. It is built of stone, at a cost of £270, but might with pro-

priety, in this country, be built of wood for about half that amount. We offer it as a study for those interested in this subject.

The work in question contains fine designs, beautifully executed, and of much architectural merit. In most of them the house of the school-master or mistress adjoins, or forms part of the same building which contains the school,—an arrangement which not only increases the importance and good effect of the building, but adds very materially to the facility of preserving the school and all its surroundings in the best possible order.

ZINFINDAL GRAPE—THE CURL IN THE PEACH LEAF.

BY CHARLES ROBINSON, NEW-HAVEN.

DEAR SIR: I notice that in the *Horticulturist* for the present month, (p. 568,) you speak of the *Zinfindal* grape, as being endorsed by the late President and Secretary of our Horticultural Society, as "better for open culture than the *Isabella*."

If such were the case, it is passing strange that the fact should not have transpired here. Surely, when inquiry has been for years constantly made here, as elsewhere, for a grape such as your readers have reason to believe that to be, it will require hard *knocking* to induce me to believe that our President has been all this time cultivating just such a fruit, and while we, his associates in horticulture and pomology, have met with him semi-monthly, for the purpose of testing the quality of fruits and for consultation and inquiry upon this precise general subject, that not a whisper should have been heard from him indicative of so high an estimation of that fruit. Not even a suggestion that it was at all comparable in its general properties for open cul-

ture to the variety so extensively disseminated among us.

That our Secretary, Mr. GABRIEL, did not thus misrepresent that fruit, I am assured from his own lips. In fact, he has never cultivated it except under glass, and there I think but one year. At the convention he did not speak of it at all, in reference to open to open culture. Probably Doct. MUNSON was also misunderstood by the reporter.

Unfortunately, cultivators are too often induced by overdrawn descriptions to incur large expense and much trouble and care in the purchase and rearing of articles, which, after the salesman has made his full profit, result only in disappointment. Such unfortunate misdirection of effort is too apt to induce an inveterate disgust for all suggestions out of the beaten track.

Too often, indeed, persons of a sanguine temperament are impressed with an idea that a certain article, or some particular remedy, or it may be some peculiar mode of culture, is

the "very best in the world." And forthwith a flaming article appears, describing, perchance, as a real occurrence, and as the result of actual experience, a successful experiment, which in truth had its existence only in the imagination of the writer.

All such off-hand suggestions and endorsements need cautious scrutiny, and the cultivator will do well to bring his own common sense to bear upon each particular case, and to determine for himself, by careful comparison and analogy, whether, after all, it is safe and expedient for him to enter upon the proposed speculation.

Last year, I could have endorsed, with the most confident belief, your remark in your work on Fruit Trees, p. 468, that the *curl* of the leaf on the peach tree was caused by a minute aphid. In truth, there is a peculiar curl which is caused in that manner; but the true curl or rather cockle of the leaf is a very different affair.

I have some fifteen peach trees, which, for three seasons have been regularly shortened in, and are now exceedingly thrifty and vigorous. I looked them all over this spring, for the express purpose, and could not find on any one of them a branch or even a twig injured in the least by the winter. They are indeed all I could wish, except the curl, which appears upon them all. They bloomed freely, and have set their fruit just in proportion to the absence of the curl.

So far as I observed last year, the aphid appeared on every leaf that was curled. They were, however, all destroyed with soap and suds. This spring, not an aphid could be found by the closest and most careful inspection, until long after the curl had manifested itself to the fullest extent, and then only on a few detached leaves, which indicated their presence by their peculiar and very different appearance. The cockle was perfectly evident upon the very first appearance of the

leaves even as they burst from the bud, and could not have been induced by the action of any insect, except while in the bud itself, and before it opens.

From the most careful and thorough examination, I am satisfied that the injury is done while the leaf is folded in the bud, and that it is affected by an insect.

What that insect is, I have not been able to discover. Indeed, the idea did not occur to me until after the buds were expanded, nor am I sure of a remedy, or rather preventive, but I have a notion that next year (*Deo volenti*) my trees will be free from the difficulty.

Where the bodies of peach trees are occasionally covered with soap and potash so liberally that it runs down upon the ground around them, can the worm obtain access to the roots? I think not. Not one has appeared upon my trees for the last two years.

For the application to the bodies of trees, the black "whale oil soap" is the most effectual, doubtless because it is made with potash. Even that is benefitted for that purpose, by the addition of more potash, but for use upon roses and other tender shrubs, to destroy the white fly, aphides, slugs, and worms, that which is of a light color is preferable. Being finished with salt, it is less caustic, and the suds may be used much stronger. I have used it for years, so strong as to kill worms, upon all my plants, without the slightest injury to any of them, except the Harrison rose. That has a decided antipathy to any such application. That alone needs to be syringed with suds in the evening and water the next morning.

Permit me to say, that my suggestions in your April No. respecting the use of charcoal for purifying cisterns have since that time been extensively adopted in this city, and with uniform and the most gratifying success. The finer the charcoal, (in fact, the nearer it is to dust,) the better. It will of course need to

be repeated. Indeed it would be strange if so small a proportion as one pint to a hog-head would render water sweet for a very long time, particularly when impurities to a certain extent are continually flowing in.

CHARLES ROBINSON.

New Haven, June 20, 1850.

We confess ourselves a little puzzled about the Zinfindal grape, and wan't to hear what Dr. MUNSON will say. Mr. PARSONS is reported in the Proceedings of the Fruit Grow-

ers' Convention as stating that this variety "succeeded perfectly well in the open air"—and Dr. M. as saying that there was "no difficulty with it out of doors." We were so much struck with these remarks at the time the discussion was going on, that we conjectured there must be some error about the variety—when one of these gentlemen—we cannot remember which—pointed out specimens then on the exhibition tables—which were certainly the true Zinfindal. ED.

PRACTICAL HINTS.

BY AN OLD DIGGER.

IF you are going to water a favorite plant, that is suffering by drouth, don't take the trouble to sprinkle three or four quarts of water upon the top of the ground, over the roots, every day. It is only "an aggravation," as Mr. WELLER said, when he drank off a glass of very *small* beer. The thing to be done in such a case is, to take off the top soil nearly down to the roots—make a little trench or ditch to prevent the water running away, and then drench the roots with water. Put on as much as the ground will readily swallow. Then wait half an hour, till it is well settled, and put the loose soil back again. To make good thorough work of it, finish all by mulching the surface—that is, covering it with hay, grass, litter of spent tan, or whatever refuse of that sort you can lay your hands on. One or two such waterings will carry a doubtful subject through a six weeks' drouth, and will cost you a vast deal less, both of labor and water, than the daily sprinkling system, which is the common practice.

Almost every body, now-a-days, has a grape vine—either Isabella or Catawba; but not one half of us ever get a good crop of grapes. The difficulty, when the seasons are long

enough, is pretty much all owing to the ignorance of pruning—for pruning is to a grape vine what a pond is to young ducks, something not to be done without. The two great mistakes, in pruning hardy grapes, is not cutting away enough wood in the winter-pruning, and cutting away too much in the summer-pruning. If you wish to have your vine thrive and well open to the sun, prune it as clean in February or March as you please. If you wish to stunt and diminish the size of your crop of grapes by one half, delay summer-pruning till they are as large as marrow-fat peas, and then make slashing work of it. Of course, in this way you will take off about a third of all the young leaves and give a check to the plant, like the jog on a rail-road made by throwing a locomotive off the track. But you have "let the sun in to the grapes," and the grapes will thank you for it, by growing about half as fast and two thirds as large, as they would have done if you had shortened the shoots ten days earlier and taken off about half as much. The grape leaf likes the hottest sun—but nature hangs the clusters of fruit under the shade of the foliage, and if you won't take the hint from her, she will set

you to thinking why your vines "turn out so poorly." If you find that your soil is poor, and if the crop does not set and swell-off properly, give them a good dose of soap-suds or liquid manure at the roots once a week. Grape vines are cormorants, and if you want large and fine fruit, you must give them no homœopathic doses of manure.

If I had "a call" to preach a sermon on gardening, I should take this for my text: *Stir the soil*. It's not an uncommon thing for people to admit the fact that nothing was made in vain; but nevertheless they will put in for an exception or two. "I should like to know what weeds were made for!" What for? Why, to force you to keep hoeing and digging in order to stir the soil and make it light and mellow. "But why?" Because the roots of plants must have *air*, and if the surface of the ground were never stirred—as for the most part it never would by lazy people, but for the weeds that must be cut up—it would become so hard and close, in many cases, that fresh supplies of air would never get to the roots. "But," the grumbler will say, "how do you get along with the fact that plants in a wild state, grow and flourish, though the soil is not stirred?" But the cases are, by no

means, the same. Wild plants grow from year to year in the same spot, and there is a yearly deposit of leaves, stalks, and vegetable matter upon the surface of the ground, which keeps it light and open, so that the air can easily get to the roots. This is not at all the case in common soil, where the plants are scattered and the surface is bare, so that it "bakes and becomes hard" with the rain. On this account, the good gardener is always up and stirring his soil, and on this account all the little implements—ploughs, hoes, cultivators, and hand ploughs, are things not to be done without by the raiser of good crops. If you have any doubts remaining, try the experiment for yourself, the first spell of hot, dry weather. Take 50 hills of corn or a couple of beds of vegetables, and loosen up the soil about the roots very often—as often as it becomes a little hard. Directly along side, for the sake of fair play, leave as many hills or beds of the same crop, with little or no stirring. I won't waste room in saying what the result will be, but if it don't open your eyes to the importance of not putting your roots on a short allowance of air, then set me down for an unprofitable

OLD DIGGER.

PAVING TO PREVENT THE CURCULIO.

BY L. A. SPALDING, LOCKPORT, N. Y.

A. J. DOWNING, Esq.—Dear Sir: In page 62 of 4th vol. Horticulturist, is a communication made by me on the subject of paving as a prevention to the curculio, in which I alluded to the experience of LYMAN A. SPAULDING, Esq., of Lockport. That communication called out considerable discussion, pro and con, but the question appears as far from settlement as ever. In the last January num-

ber, page 315, your correspondent JEFFREYS wished me to obtain further information from Mr. SPALDING on the subject; and as I met him a few days since, he obligingly promised to write his whole practice, with the results touching this curculio question, which he has kindly done. I forward it to you for publication. I will further add, that Mr. SPALDING is an eminently practical man, and little given to

mere theorizing. I know of no more reliable authority than him. Yours, truly,

LEWIS F. ALLEN.

Black Rock, June 6, 1850.

Dear Friend: The following statement will show the effect of paving under apricot and plum trees, which was the subject of our last conversation.

In the spring of 1834 I set out several rows of plum, peach, cherry, and apricot trees, twenty feet apart, and the trees ten feet apart in the row. My apricots are on plum stocks. Up to 1846, I had not a single fair crop of apricots from any of my trees. Some varieties of plums bore—the egg plum did not have but two fair crops in that time. At any rate, I was discouraged in trying to raise apricots and plums.

On a lot on Main-street in this village, where I resided from 1823 to 1835, I had an apricot tree, near the garden fence, outside of which was the side-walk of the street, and inside was a brick walk leading to the rear of the garden. This tree bore uniformly fine crops to maturity, until it was destroyed about four years ago. I was puzzled to account for the fact, that my trees at my present residence should not bear to maturity, with all my pains of thumping and destroying the curculio, picking up and feeding the fallen fruit to the hogs—while the tree on my old place hung full. In 1846 I saw a statement that to pave under apricots, plums, and nectarines, would prevent the ravages of the curculio. This gave me a clue at once to the wherefore of the bearing of my apricot on my old place—and I resolved to at once pave under my trees. In the spring of 1846 I spread leeches ashes under my apricots and plums, and paved all my apricots and part of my plums. Those paved bore abundant and fine crops to maturity, in 1846, '47, '48 and '49, while the egg plums, which were not paved under till the spring of

1849, for fourteen years had but two good crops. In 1849 I paved under them, (the egg plums,) and they bore a fine crop. They are in one of the rows, and I know of no reason why they should not bear, but because they were not paved. They were bearing trees when set in 1834, and have ever been thrifty—the fruit uniformly falling off before maturity, excepting as stated.

I have a fine nectarine which always hangs full of green fruit, and it never yet produced a ripe nectarine—this was set out in 1835 in a row of peaches, and is not paved. I have this spring spread a coat of leeches ashes under it and paved it. It hangs very full, and I have no doubt I shall have a fine crop of ripe nectarines.

I usually sweep up the fallen fruit and feed to the hogs—about one-third of my apricots are stung and drop, but more remain on the tree than I usually allow to ripen. Every year since I paved, my apricots are loaded with ripe fruit. I sprinkle salt freely on the pavement to destroy the grass and weeds which spring up between the edges of the flat stones I used, and to fertilize the ground.

Persons may theorize as much as they please—but I have the fullest confidence, that paving must produce the same results every where. I have neighbors who attempt to raise plums and apricots without paving, and complain of losing their fruit; and fruit falling from my trees show, that the curculio exists here in great abundance. It is not the absence of the insect that saves my fruit, but in my opinion *its instinct*, which leads it away from paved trees, because the chance of reproduction is destroyed and its *labor of love lost*. Its darling *maggot* cannot burrow in the ground under the paved trees. Be it instinct, or desire to perpetuate the race, or what it may, I know that since I paved, I have fine apricots and a great abundance of them—at a season, too, when such fruit is a great luxury. The sur-

plus commands a large price in our market, and *pays* better than any other fruit. The expense of paving is more than liquidated the first year. Hard brick, flat stones, or even cobble stones would do the job. Salt destroys the weeds and grass. Leached wood ashes, two or three inches thick, on which to lay the paving, is important, as being a substance in which no maggot would burrow, in dodging the stone or brick.

A friend recently informed me that he cut down his nectarine trees, because the fruit

uniformly fell off. Many have given up trying to raise the apricot for the same reason, and the plum, too, is growing into disfavor from the same cause. If this certain remedy were known and applied, what a vast addition to the comfort and pockets of our people would result ! Very respectfully,

L. A. SPALDING.

Lockport, N. Y., 6th mo. 1st, 1850.

I would mention that my pavements are nine to ten feet wide, and run lengthwise of the row.

L. A. S.

EVIDENCE ON THE PEACH AND NECTARINE MYSTERY.

BY J. BINGHAM, HUDSON, N. Y.

WONDERS will never cease, until ignorance is lost in knowledge, and knowledge lost, if it can be, in intuition.

In 1841, Mr. CHARLES TOMPKINS, of this city, planted in the yard back of his warehouse in Warren-street, a peach stone, from which has grown a tree twenty feet high. It has produced fruit regularly every season since it began to bear, of the large delicious free-stone kind.

Some three years ago, "come peach time," Mr. T. gave a peach of this tree, weighing 14 ounces, to his friend and neighbor, Mr. BUCHANAN, a Scotchman. And the latter, Scotchman-like, gave it to Mr. DUNCAN HOOD, a countryman of his, occupying some nursery grounds in the vicinity. Mr. HOOD, gave it to his children to eat, taking care to preserve the stone for planting. This stone he opened, and found it a double one, containing two kernels. He closed the stone and planted it near his own dwelling. Here he lives, "the monarch of all he surveys," within his enclosure of four acres—an illustration of what a single-handed man can do, exercis-

ing talent with industry and frugality rarely equalled, seldom surpassed.

And now the interest of the tale commences.

Yesterday, I saw the product of that one stone, in two trees, near ten feet high, twin-like, standing side by side, but each bearing different fruit from its companion, friend, neighbor and relative—one bearing *Nectarines* and the other *Peaches* !

Mr. BUCHANAN first made the discovery, I believe, the same day ; for I found him there ; having drawn Mr. HOOD's attention to the mystery, which yet remains unsolved. We are in a quandary. Can you enlighten us ?

J. BINGHAM.

Hudson, N. Y., 16th June, 1850.

We are obliged to our correspondent for giving another evidence of the identity of species between the peach and the nectarine. He has not, probably, seen the discussion on this subject published in our first volume. The nectarine is considered, by botanists, only a *variety* of the peach, and not a distinct *species*—hence, though nectarine stones usually

produce nectarine trees, and peaches, peach trees—yet it occasionally happens that nectarine seedlings return back to the original form, the peach—and on the other hand, as in this case, the peach sports by seed with the nectarine variety. The French call all nectarines “smooth peaches”—*pêches lisses*. There are cases on record, in the Transactions of the

Horticultural Society of London, of both peaches and nectarines growing naturally on the different branches of the same tree.

Our friend Mr. LONGWORTH of Cincinnati, who flatly denies the possibility of such a thing as a peach stone producing a nectarine tree, is, we think, bound to pay a visit to the “twins” at Hudson.

AN ESSAY ON FLOWERS.

BY H. T. TUCKERMAN, NEW-YORK.

[WITH Mr. TUCKERMAN’S obliging permission, we copy from his last volume,—“The Optimist,”—the following charming Essay on Flowers. Mr. TUCKERMAN’S refined and cultivated taste in the arts and his love of nature are admirably displayed in it, and we have rarely met with any thing on the subject at once so full of poetical *fragrance* and scholarly culture. ED.]

Floral apostles! that in dewy splendor
Weep without woe, and blush without a crime,
O may I deeply learn and ne’er surrender
Your lore sublime. HORACE SMITH.

I attended church on a fine day of midsummer, in one of the most beautiful villages of New England. The structure, though externally attractive, from its retired situation and the pleasant grove that surrounded it, like most places of worship in the country, had a very bare and unhallowed aspect within. The formal divisions of the pews, the superfluity of white paint, and the absence of anything venerable, either in form or hue, made it agreeable to turn the eyes from the thinly scattered congregation and faded pulpit drapery, to the open window, against which a noble linden lightly tossed its sprays, and through which stole in a delicious breeze, that made the leaves of the hymn-looks flutter, a response to that sylvan whispering, which had in it more of devotional music than the screeching bass-viol and unchastened voices that soon drowned all other sounds. In reverting to the scene more immediately adjacent, however, I suddenly beheld a vase of

flowers on the communion-table. They were most inartificially and tastefully arranged; the brilliant tints judiciously blended, the shadowy green naturally disposed, and the base of the jar which contained them wreathed with trailing blossoms. The sight of this vase of flowers was like enchantment. It seemed to fill that forlorn church with its presence. It spoke of nature, of beauty, of truth, more eloquently than the service. It atoned for the meagre altar, the homely edifice, and the ungarnished pew. It seemed to embody and typify the externals of worship with sacramental chalice, baptismal cup, and odorous censer.

Science and sentiment have rather formalized than illustrated the association of flowers: the one by its rigid nomenclature, and the other by an arbitrary language, profane the ideal charms of the floral kingdom. It is pleasant to regard these graceful denizens of the garden and forest, in the spirit of that fine hymn of Horace Smith’s which celebrates their beautiful significance. Instead of looking at them through the microscopic lens of mere curiosity, or according to the fanciful and hackneyed alphabet that Floral dictionaries suggest, let us note their influence as symbols and memorials. To analyse the charm of flowers, is like dissecting music; it is one of those things which it is far better to enjoy than to attempt to understand. In observing the relation of flowers to life and character, I have often been tempted to believe that a subtle and occult magnetism pervaded their atmosphere; that inscriptions of

wisdom covered their leaves; and that each petal, stem, and leaf, was the divining rod or scroll that held an invisible truth.

Viewed abstractly, one of the peculiar attractions of flowers is the fact that they seem a gratuitous development of beauty; "they toil not, neither do they spin." In almost every other instance in nature, the beautiful is only incidental to the useful; but flowers have the objectless, spontaneous luxury of existence that belongs to childhood. They typify most eloquently the benign intent of the universe; and by gratifying, through the senses, the instinct of beauty, vindicate the poetry of life with a divine sanction. Their fragility is another secret charm. A vague feeling that the bright hue is soon to wither and the rich odor to exhale, awakens in the mind, unconsciously, that interest which alone attaches to the idea of decay. These two ideas—that of the gratuitous offering of nature in the advent of flowers, the benison their presence seems to convey, and the thought of their brief duration—invest flowers with a moral significance that renders their beauty more touching, and, as it were, nearer to humanity, than any other species of material loveliness. The infinite variety of form, the exquisite combination of tints, the diversity of habits, and odorous luxuries they boast, it would require an elaborate treatise to unfold. We may obtain an idea of the perfection and individuality of their forms by considering their suggestiveness. Scarcely a tasteful fabric meets the eye, from the rich brocade of a past age to the gay prints of to-day, that owes not its pleasing design to some flower. Not an ancient urn or modern cup of porcelain or silver, but illustrates in its shape, and the embossed or painted sides, how truly beautiful is art when it follows strictly these eternal models of grace and adaptation. Even architecture, as Ruskin justly indicates, is chiefly indebted to the same source, not only in the minute decorations of a frieze, but in the acanthus that terminates a column, and the leaf-like pointing of an arch. A skilful horticulturist will exhibit the most delicate shades of fragrance in different species of the rose, until a novice cannot but realise to what a miraculous extent the most refined enjoyment in nature may be sublimated and modified; and the same thing is practicable as regards both hue and form.

The spirit of beauty, in no other inanimate embodiment, comes so near the heart. Flowers are related to all the offices and relations of human life. They bound the sacrificial victim of the ancients; and, from the earliest times, have been woven into garlands for the victor, trembled in the hair of the bride and cheered the invalid's solitude. They have been ever offered at the shrine of beauty, and claimed as the pledges of love, nor ceased to adorn the banquet or be scattered over the grave. Thus domesticated, even without intrinsic beauty, and exclusive of any appeal to taste, flowers are blended in the memories of the least poetical with scenes of unwonted delight, keen emotion, and profound sorrow. Hence they have a language for each, not recognised in any alphabet, and their incense is allied with the issues of destiny. McGregor's foot was more firmly planted, because upon upon his "native heather;" the Syrian, in the *Jardin des Plantes*, wept as he clasped his country's palm-tree; Keats said, in his last illness, that he felt the daisies growing over him; and one who, even in renowned maturity, had wandered little from the singleness of childhood, declared he could never see a marigold without his mouth's watering at the idea of those swimming in the broth Simple Susan prepared for her mother, in Miss Edgeworth's little story. There is no end to the caressing allusions of Petrarch to the violet and the laurel, so identified with the dress and name of his beloved. Indeed, we might scan biography and the poets for years, and continually find new evidences of the familiar and endearing relation of flowers to sentiment. Each of the latter have celebrated some favorite of the race in their choicest numbers; and the very names of Ophelia and Perdita are fragrant with the flowers that Shakspeare, with the rarest and most apposite grace, has entwined with their history.

The Venetian painters must have studied colour in the hues of flowers; for the brilliant, distinct, and warm tone of their works affects the spectator exactly as these rainbow gems; especially when they strike the eye in an isolated position, or surrounded by dim umbrage. Nor is this effect confined to the domesticated flowers; for the richest and most delicate gradations of tint occur among uncultivated and indigenous plants—such as the lobelia of the swamp, the saffron of the

meadow, and the nameless variety of prairie blossoms. There are few more curious subjects of speculation than the *modus operandi* by which such an infinite diversity of colours are obtained from the same apparent source. This is an exquisite secret of nature's laboratory. The physiology of plants has been successfully investigated; and it is interesting to consider that the vitality of flowers is much the same as our own as regards its process, though so different in kind. They have affinities of sensibility; they germinate and fructify; but the elements they assimilate are more subtle than those which sustain animal organization; yet sun, earth, and air nourish them according to a nutritive principle not unlike that by which our frames are sustained. The reciprocal action between vegetable and organic life, and their respective absorption and diffusion of gases, is one of the most beautiful expositions of science. But the instinct of flowers is not less curious; some fold their leaves at the approach of a storm, and others open and shut at particular hours, so that botanists have rejoiced in floral dials and barometers. Their relation to sight and smell is very obvious; but that to touch is less regarded, and yet it is extraordinary how the feel of almost every known fabric can be realized by the contact of leaves. Where the touch is sensitive, experiments of this kind may be tried, much to the amusement of the sportive; for many leaves, if unperceived, and at the same time subject to an exquisite touch, give the sensation of animal, insect, and even mineral substances, indicating how intricately modified are the proportions of fibre, down, juice, and enamel in their composition.

In their associations, however, flowers are quite independent, both of rare qualities and peculiar beauty. Almost all great men have loved rural seclusion, and have had their favorite villa, island, arbor, or garden-walk. In Switzerland, Germany, and, indeed, everywhere on the continent, these places, consecrated by the partiality or endeared by the memory of genius, are shrines for the traveler. Such are Clarens, Vacluse, and Coppe. Lamartine's tenderness for Milly, his childhood's home, as exhibited in his late writings, illustrates a sentiment common to all imaginative and affectionate men; but it is observable that sometimes these charmed spots

boast no remarkable floral attractions, often only sufficient to make them rural; a grove of pines, a small vineyard, a picturesque view, and not infrequently a single tree—like the famous old elm at Northampton, amid whose gigantic branches Dr. Edwards, who wrote the celebrated treatise on the Will, was accustomed to sit and meditate;—any truly natural object redolent of verdure and shade, is enough. And the hedges of England, the moors of Scotland, the terrace-gardens of Italy, the scrambling, prickly-pear fences of Sicily, and the orchards of America, are attractive to the natives of each country, on the same principle. It is the beautiful distinction of flowers that, gathered into magnificent horticultural shows or hidden in lonely nooks, they alike address the sense of beauty, so that a little sprig of forget-me-nots may excite a world of sentiment, and one scarlet geranium irradiate an entire dwelling.

Flowers not only have their phenomena, but their legends. The latter are usually based upon some idea of a sympathetic character, as that which transforms Daphne into a laurel, and changes the pale hue of a flower to crimson or purple at the occurrence of human shame or misfortune. Even veneration is excited by the mysterious natural history of some flowers, or the idea they symbolize. Thus the aloe, that blossoms once in a century, and the night-blooming Cereus, which keeps vigil when all other flowers sleep; and the Passion-flower, in which the Catholics behold the tokens of our Saviour's agony, have a kind of solemn attraction for the eye and fancy.

There is no little revelation of character in floral preferences. It accords with the humanity of Burns that he should celebrate the familiar daisy; with the delicate organization of Shelley that a sensitive plant should win his muse; and with Bryant's genuine observation of nature that he dedicates a little poem to an inelegant and neglected gentian. It is in harmony with the English idiosyncrasy and church attachments of Southey, that his most charming minor poem is in praise of the holly, the symbol of a Christian and national festival; and no poet but Crabbe would descend to so homely a vegetable product as kelp. There is no flower more peculiar in its beauty and growth than the water-lily; accordingly, Coleridge, with his meta-

physical tendency to seize on rare and impressive analogies, has drawn a comparison from this flower which strikes me as one of the most poetical as well as felicitous in modern literature. Speaking of the zest for new truth felt by those already well instructed, as compared with the indifferent mental appetite of the ignorant, he says, "The water-lily, in the midst of waters, opens its leaves and expands its petals at the first pattering of the shower, and rejoices in the rain-drops with a quicker sympathy than the parched shrub in the sandy desert." The dreamy, half sensuous, and half ideal nature of Tennyson, is naturally attracted by the sweet rapture innate in the breath and juices of some flowers. He is fitted keenly to appreciate the luxurious indolence and fanciful ecstasy thus induced; and, therefore, one of the most effective and original of his poems is "The Lotus Eaters." Moore's famous image of the sunflower is a constant bone of contention between horticulturists and poets; the former asserting that it does not turn round with the luminary it is supposed to adore, but is as fixed on its stalk as any other flower; and the latter declaring that the metaphor "*se non è vero, è ben trovato*."

Few plants are more graceful or versatile in contour than the fern. One can scarcely pass a group without recalling that line of Scott, which so aptly describes the utter lull of the air:

"There is no breeze upon the fern, no ripple on the lake."

And what figure of rhetoric better suggests the caprice of woman than that which has almost become proverbial since it was incorporated in his spirited verse:

"—— variable as the shade
By the light, quivering aspen made!"

Goldsmith's sympathy with the rural and human is associated intimately with the hawthorn, "for whispering lovers made." Rosemary has been more emblematic of remembrance, since it was so offered by the "fair Ophelia;" and Heart's-ease is consecrated by the splendid compliment to "the virgin throned by the West," to which it is indebted for the name of "love-in-idleness." The epicurean utilitarianism of Leigh Hunt recognised "comfort" in the feel of a geranium leaf; and who that has read with appreciation Miss Barrett's fine poem, elaborating the beautiful sentiment

of the Bible, "He giveth his beloved sleep," can see a poppy, that gorgeous emblem of the drowsy god, without a benison on the thoughtful lyrist? I think that the yellow broom must have originally flourished in lonely places. For hours, I followed a mule-path in the most deserted part of Sicily, cheerful with its blossoms, whose rich yet delicate odor embalmed the air; hence the significance of Shakspeare's allusion to this flower, "which the dismissed bachelor loves, being lass-lorn." Campbell must have had an oppressive sense of the poisonous horror of night-shade, from his reference to it, in the protest against scepticism, as the natural companion of dismay. I have always thought the thistle an apposite symbol, not only of Scotland, but of her martyred queen—"its fragrant down set round with thorns, and rifled by the bee."

One of the most popular tales of the day—"Picciola"—is based upon the interest which a single flower may excite when it is the sole companion of a prisoner; and the favor this little romance has enjoyed, proves how natural is the sentiment it unfolds. The most severely religious minds, however indifferent to art or scenery, are not infrequently alive to this feeling; the constant allusion to flowers, in a metaphorical way, in the Scriptures; the rich poetical meaning attached to them in the East; the lily that always appears in pictures of the Annunciation; the palm-leaves strewed in our Saviour's path; the crown of thorns woven for his brow, and his declaration of the field lilies, "that Solomon in all his glory was not arrayed like one of them"—indicating that his pure eyes had momentarily rested on their familiar beauty—lend to such persons a hallowed sense of their attractiveness. There is yet another reason for this exception to a prosaic view of what is merely charming in itself, which those disposed to bigotry make in favor of flowers. It is that they symbolize immortality. No common figure of speech is more impressive to the peasant than that which bids him see a "type of resurrection and second birth," in the germination of the seed, its growth, development, and blossoming. Again, too, there are the associations of childhood, whose first and most innocent acquisitions were gathered flowers, emblems of its own exuberance, offerings of its primitive love. I imagine the sense of colour—now regarded as a separate

and very unequally distributed faculty—is one of the earliest developed; it explains the intense gratification even of an infant at the sight of a tulip; and there is reason to believe that the hues of flowers are the most vivid tokens of enjoyment that greet the dawning mind.

The orientals, adepts in voluptuous ease, place vases of flowers around their fountains; and, as they lie upon divans, their eyes close, in the refreshing siesta, with these radiant sentinels for the last image to blend with their dreams, and their odor to mingle with the misty spray and cheer their waking. The Greek maidens dropped flowers from their windows on those that passed, to indicate their scorn, praise, or love. One of the poetic touches which redeem the frugal lot of the grisettes, is the habit they indulge of keeping a box of mignonette on their window-sills. You may see them at dawn bending over it, to sprinkle the roots or enjoy the perfume. In Tuscany and the Neapolitan territory, peasants wear gay flowers in their hats; while the more grave people of the intervening country rarely so adorn themselves. I was struck, at the wedding of an American in France, to see the servants, tearful at parting with their mistress, decorating the interior of her carriage with white flowers. There is something, however, very artificial in the dry *immortels*, here and there dyed black, for sale at the gates of Pere la Chaise, and bought by the humbler class of mourners to hang on the crosses that mark the graves of kindred. Our own rural cemeteries are teaching a better lesson. The culture of flowers on such domains, is not only in excellent taste, but, when judiciously selected and arranged, a grateful memorial. At Monaco, a town in Italy, a few years since, the body of a young child was covered with flowers, according to the custom of the place; and when sought for the purpose of interment, it was found sitting up and playing with the flowers—an affecting and beautiful evidence of the ignorance of death characteristic of that spotless age.

Fashion seldom interferes with nature without diminishing her grace and efficiency. It denudes the masculine face of the beard, its distinctive feature; substitutes for the harmonious movement of the chaste and blithesome dance, the angular caprices of the polka;

clips and squares the picturesque in landscape into formalized proportions; and condemns half the world to an unattractive and inconvenient costume. Even flowers seem profaned by its touch; there is something morbid in their breath when exhaled profusely in gorgeous saloons and ostentatiously displayed at a heartless banquet; and wisely as the florist may adjust them into bouquets, they are so firmly entwined and intricately massed together, as often to resemble mosaic. We turn often from the most costly specimen of this appanage of the ball and opera, with a feeling of relief to the single white rosebud on a maiden's breast, or the light jasmin wreath on her brow. The quantity and showy combination of the flowers, especially the heated atmosphere and commonplace gabble of the scene, and often the want of correspondence between the person who so consciously holds the bouquet in her gloved hand and the sweet nature it represents, rob the flowers of their legitimate claim. Indeed, like all truly beautiful things, they demand the appropriate as a sphere. The east wind, in Boston, on the last national holiday, and the grave faces of the children, to say nothing of the idea that approbateness and acquiesciveness were the organs mainly called in play in their little overworked brains, utterly dispelled all genuine romance and grateful illusion from the floral procession. Something analogous in character, atmosphere, and occasion, is needed to render the ministry of flowers affecting and complete.

We instinctively identify our acquaintances with flowers. The meek and dependent are as lilies of the valley, and, like them, need the broad and verdant shield of affectionate nurture; sycophants are parasites; exuberant and glowing beauty and feeling are more like the damask rose than anything in nature; the irritable annoy us like nettles; the proud emulate the crown imperial; the graceful are lithe as vine-sprays; the loving wind around our hearts like tendrils; and the cheerful brighten the dim background of life like the scarlet blossoms of the woodbine. Not a flower in the cornucopia of the floral goddess but hath its similitude and its votary. The boy's first miracle is to press the seed-vessels of the balsamine till it snaps at his touch; or shouts, as he runs from bed to the garden, at the sight of the rich chalice of the

morning-glory, planted by his own little hand, that has opened while he slept. The clover's pink globe, and the deep crimson bloom of the sunae; the exquisite scent of the locust, and the auspicious blooming of the lilac; the hood-like purple of the fox-glove, and the dainty tint of the sweet pea, stir, whenever they re-appear, those dormant memories of early and unalloyed consciousness, which

"—— neither man nor boy,
Nor all that is at cumity with joy,
Can utterly abolish or destroy."

Thus, from the first, perverted mortal, thou wert indebted to flowers;—as a wayward urchin, loitering on the way to school, thou whistled shrilly against the edge of a grass-blade, held a butter-cup to the chin of thy little comrade, or puffed away the feathery seed-blossom of the dandelion to ascertain if thy secret wish would be consummated; as a youth, with quivering pulses and flushed brow, thou wert not ashamed to seek the choicest flowers as interpreters of thy feelings towards one before whom thy words were tremulous, yet fond; and in thy prime, when positive knowledge and accurate deduction constituted thy felicity, it was, or might have been, to thee a rational pastime to study the botanial relations, laws, and habits of these poetic effusions of the earth; causing them to gratify thee through analysis, as they once did through sentiment. And "in that Indian summer of the soul," that descends on frosty age, how do flowers serve as the magic connecting bond that unites senility and childhood! The eye of age softens as it beholds the shower of blossoms from the fruit-trees, thinks of its own flowery day, and is thankful for a serene maturity. Thus have flowers an utterance everywhere and always; the wild columbine, on its thread-like stem, that hangs on the stony cliff; the fungus, that swells from the mouldering trunk of gigantic forest trees; the tropical exotics of the *stuffo*, that almost bewilder in their strange beauty; and the buds that open beneath Alpine snows, address our sense of adventure, of wonder, and of gentleness, in quiet, yet persuasive appeals, that sometimes we cannot choose but heed.

The fondness of the Dutch for tulips, it may be conjectured, is partly owing to the flatness of their country, as well as its alluvial soil; the absence of picturesque variety

in form inducing a craving for the most vivid sensations from colour. Perhaps the compactness and neat growth of bulbous roots, so adapted to their cleanly and well-arranged domicils, somewhat accounts for the exquisite degree of cultivation to which they bring this species of flowers. It is one characteristic advantage of such natural ornaments, that a few well selected, or even one in a room, or in the midst of a grass-plat, will diffuse refreshment and excite imagination. Thus the flowers that cluster on the roofs of Genoa, and the little knot of violets imbedded in geranium leaves dispensed by the flower-girls in Tuscany, are more pleasing than if the display were greater. On revisiting a city of the latter state, after years of absence, as I followed the lagging porter who carried my luggage, in the twilight of early morning, I was startled by a cordial exclamation, "*Ben tornato, O ben tornato signore!*" and looking down a narrow street, I saw the flower-girl from whom I had so long ago been accustomed to purchase, gaily advancing with a bouquet. It was a welcome such as awaits the traveller in few countries, and one which touched the heart with cheerful augury.

There is, indeed, something in flowers redolent of hope and suggestive of anity. Their very universality renders them eloquent of greeting. The fair, maternal bosom of Titian's Flora has a significance beyond that which artists recognise; it proclaims Nature as a beneficent parent, lavishly dispensing the flowers that strew life's rugged path, with sweet monitions and grateful refreshment. How, in the season of vivid emotion, has the unexpected sight of a pale crocus bursting from the mould in early spring, the teeming odor of a magnolia tossed on a summer breeze, or the green flakes of a larch, powdered with snowy crystal in the winter sun, kindled the very frame with a kind of mysterious delight! There is to the poetical sense, a ravishing prophecy and winsome intimation in flowers, that now and then, from the influence of mood or circumstance, re-asserts itself like the reminiscence of childhood or the spell of love. Then we realize that they are the survivors of our lost paradise, the types of what is spontaneous, inspiring, and unprofaned in life and humanity, the harbingers of a blissful futurity. It was, therefore, in a rational as well as a fanciful spirit, that trees were con-

separated into emblems and auguries; that the willow, in its meek flexibility, was made the insignia of desertion; the cypress, in its solemn and dense foliage, of death; the enduring amaranth, of immortality; and the classic shaped, and bright green leaves of the laurel, of fame.—Not only in their native traits, but in their almost sympathetic habits, flowers come near our affections. How patiently the ivy binds the disjointed stones of a ruined edifice, and the moss creeps over the grey and time-stained roots and rocks, as if to cover their decay, and relieve their sterility! With what a wreathing protection clusters the woodbine round the humble porch! The field flowers, some one has truly said, smile up to us as children to the face of a father; and the seeds of those destined for birds, fly on innumerable wings of down, to germinate the more abundantly. The warm hues of the dahlia would be oppressive in any other season than autumn; and the glitter of the ocean's strand is chastened by the gay weeds, whose variegated tints are freshened by every wave that dies along the beach. Even this herbal, the repository of memorials gleaned from hallowed scenes, or treasured as the fragile trophies of joys as fragile, "strikes the electric chain" of imagination and memory with a deeper vibration than a sketch-book or a diary. That little cluster of thin, pale green leaves, with a shade of delicate brown at the edges (called by the Italians the Hair of Venus,) which clings to the page as if painted on its surface, once hung from the dark, rocky wall of the remarkable cavern in Syracuse, called the Ear of Dionysius; and as I look upon it, the deserted bay, crumbling tombs, and wreck-strewn *campagna* of that ancient site are vividly before me; even the flavor of the Hybla honey, and the echo of the mule's tramp, return to my senses. This weed, so common in shape and hue that it needs a reminiscence to justify its preservation, was plucked as I stood tip-toe on the edge of a gondola, and held fast to old Antonio's shoulder, while he checked his oar beneath the Bridge of Sighs, and I snatched it from the interstices of the arch. The piazza of San Marco, the Adriatic glowing with the flush of sunset, the lonely canals, and all the grey quietude of Venice, are conjured by the withered memento, "as at the touch of an enchanter's wand." More costly acquisitions

have yielded less zest in the winning than this slender yellow flower, which, evading the jealous watchfulness of the guard at Pompeii, I gathered to assure myself thenceforth that I had actually walked the streets of the buried city. How venerable seems this bunch of grass and flowers that drew its sustenance from the loamy walls of the Coliseum; and with how marvellous a freshness do I call up the medieval architecture, exquisite *campanile*, and mountain boundaries of Florence, beholding again the anemone purloined, on a fine Sabbath morning, in the gardens of the Boboli! I cannot see this cassia blossom without feeling a certain impulsion to monastic life, as I think of the kind friars, the noble organ, lava-heaped confines and soothing retirement of the Benedictine convent, at Catania, whence I bore it as the memento of one of those white days in the traveller's experience, that atone for a thousand discomforts. Pleasant was the summer evening, at Messina, when, in one of the palaces that line the *marina*, we kept gay vigil in order to witness the blooming of this faded Cereus; and high beat the pulses of an entranced multitude on the night this faded nosegay was pressed to the lips of Amina, in that last *scena*, when her voice quivered with uncontrollable feeling, and carolled the "*Ah! non giunge*" in tones of such pathetic delight as brought a tear to the sternest eye. I will not throw away this rusty-looking japonica, but keep it as a talisman to guard me from the fascination of heartless beauty, reflecting on the character of the brilliant —, in whose dark hair it rested during the last ball of her triumphant season, that bewitching face displaying every phase of expression, while not one look was inspired by a soul, any more than this flower, in its graceful prime, was imbued with fragrance. Far different is the association that endears the scarlet honeysuckle and white holyhock beside it. Through peaceful hours that overflowed with unuttered tenderness, and an ecstatic sense of geniality and recognition, I watched beside one I loved; the humming-bird and the bee sipping the nectar from their chalices, and compared the luxurious pastime with my own. Nor will I cease to treasure this orange-blossom given me by the dark-eyed Palermitan, in the grove of her father's domain, when the air was filled with the odor

of the sweet south, and musical with the far-off chime of the vesper-bells. The scent of this grape blossom is associated with the hospitality of a villa below Fiesole; and that heliotrope makes me think of a fair invalid with whom I wandered among the ilexes of a palace-garden, in whose grassy walks the vanilla flower grew profusely. I saved the reedy leaf that is stitched to the opposite page, as one of the countless proofs of the thoughtful care of my motherly hostess at

——. She stuck it in my window on Palm Sunday. When gleaned in a field near Lucca, this little flax-blossom held a dew-drop, and looked like the tearful blue eye of a child. Arid as it is, the pink, star-like flower beneath whispers of romance. At a picnic, a friend of mine who has an extreme impatience of tenter-hooks, determined to have his position with a certain fair one defined, as, after some encouragement, she seemed half inclined for another. With true feminine tact she avoided an interview, though they constantly met. I believe she either could not decide between the two, or hated to give up my friend. He laughingly proposed, while we were resting in a meadow, to make his favorite a sybil, and handed her a knot of these starry flowers, to pluck the leaves one by one, and reveal the hearts of the company, according to a familiar game. When the time came to apply the test to her own sentiments, she was visibly embarrassed. He fixed his calm eyes upon her face, and I, knowing at once his delicacy and his superstition, felt that this was a crisis. The lovely creature's voice trembled, when, half petulantly, and with visible disappointment, she plucked away the last leaf, which proved her only his well-wisher. The omen was accepted, and my friend soon had

“—— a rougher task in hand
Than to drive liking to the name of love.”

Flowers are the most unobjectionable and welcome of gifts. There is a delicacy in selecting an offering, whether of gratitude, kindness, or affection, that sometimes puzzles a considerate mind; but where any such hesitancy occurs, we can turn to flowers with complacency. Nature furnishes them, and all her beautiful products may bravely challenge fastidiousness. No human being not utterly perverted, can scorn flowers: nor can they be offered, even to the spoiled child of fortune, without an implied compliment to taste. The fairest of Eve's daughters, and the proudest scion of nobility, as well as the village beauty, the most gifted and least cultivated—provided either imagination or heart exists—must feel gratified at such a tribute, whether from dependent or equal, new acquaintance or faithful lover. Like all spontaneous attractions, that of flowers gives them immunity from ordinary rules. They are so lovely and so frail, that, like children, they bespeak indulgence ere they offend. Of all material things, they excite the most chivalric sentiment; and hence, are given and received, scattered and woven, cultivated and gathered, worn and won, with a more generous and refined spirit than any other ornaments. They are radiant hieroglyphics sculptured on the earth's bosom; perhaps the legacy of angels, but certainly overflowing with messages of love that are apart from the work-day scenes and prosaic atmosphere of common life, and allied to better moments; to the sweet episodes of existence, to the promises of love, and the memories of youth: and hence they are consecrated, and like “the quality of mercy,” bless “him that gives and her that takes.”



THE STANWICK NECTARINE.—An extraordinary sale took place in London, on the 15th of May last, of the first plants of a new nectarine bearing this name, and which having received the praise of the severest judges, and the highest authorities in England, cannot we think but be the finest fruit of its class yet known.

The following account of this fruit from the pen of Dr. LINDLEY, appeared in the *Gardeners' Chronicle*.

The original nectarine tree of this variety is in the possession of the DUKE OF NORTHUMBERLAND, at whose seat at Stanwick, it has borne fruit for several years, and from which it derives its name. The Duke received it from the late Mr. BARKER, of Suædia, in Syria, a gentleman whose attention had long been turned to the cultivation of the finest fruits of the East, in the hope that they might be valuable in his native country. It was his anxious desire, that such as proved to be adapted to the climate of the United Kingdom, might be immediately disseminated; and the sale now announced is in furtherance of his benevolent design. In surrendering his property in it to the public, the DUKE OF NORTHUMBERLAND has resolved that the proceeds, after paying the expenses of propagation, etc., should be transferred to a friend in aid of the Benevolent Institution for the Relief of Infirm Gardeners. The sale will take place on the anniversary of the Institution, and the purchasers will have the satisfaction of knowing that in this instance they may contribute materially to its funds, while at the same time they are consulting their personal interests.

In excellence, the Stanwick Nectarine is as far beyond all other nectarines as a Green gage plum is beyond all other plums. Beyond this, praise cannot reach. It may, nevertheless, be as well to repeat, on the present occasion, what we stated some time since, when the high quality of the nectarine fruit became perfectly ascertained.

The Stanwick Nectarine is about the size of an Elruge, and like it in shape, except in being less heart-shaped at the base. Its skin is pale, like that of the white nectarine, when shaded, with a violet tinge next the sun. The flesh is white, exceedingly tender, juicy, rich and sugary, without the slightest trace of the flavor of prussic acid. The stone is middle-sized, ovate, with rather a prominent sharp edge, very

rugged, and of a chocolate colour. The kernel is sweet, like a nut, possessing none of the bitter almond flavor.

Dr. LINDLEY adds that at the time the foregoing was written, the "full value of the fruit was imperfectly understood, the fruit which reached London having been damaged in the carriage. We have lately, however, been favored by his grace the DUKE OF NORTHUMBERLAND, with a liberal supply, which arrived in the most perfect condition, and we can now appeal to various persons near London, who had the opportunity of tasting it, as witnesses of its unrivalled excellence. 'The most delicious nectarine I ever ate.' 'The flavor is very delicious and altogether exquisite; I do not wonder at your speaking of it in high terms.' 'It is a superb fruit.' 'Most delicious.' Such is the language in which great judges of fruit, accustomed to the finest known varieties, have spoken of the specimen they received. We confidently believe that the time is not distant when it will be found in every fruit-garden of the United Kingdom."

The variety was placed in the nursery of Mr. RIVERS for propagation, and of course, is not in any other hands, out of Syria. The first sale consisted of 24 plants, which were set up at public auction in 24 lots, and were bought by the following parties, at the prices annexed:

£ s. d.	
Lot 1—	7. 17. 6—Mr. Low, Clapton
2—	10. 10. 0—do. do.
3—	8. 8. 0—Messrs. Whitley & Osborn, Fulham.
4—	6. 16. 6—Messrs. Hindman, Pineapple Place.
5—	10. 10. 0—Messrs. Whitley & Osborn.
6—	7. 17. 6—Messrs. Hurst & McMullen.
7—	8. 18. 6—Messrs. Veitch, Exeter.
8—	7. 17. 6—Mr. Turner, Slough.
9—	4. 14. 9—J. H. Barchard, Esq., Putney Heath.
10—	3. 13. 6—do. do. do.
11—	5. 15. 6—Mr. Ingram, gardener to her Majesty.
12—	4. 14. 6—Messrs. Youell, Great Yarmouth.
13—	7. 17. 6—Mr. Games, Battersea.
14—	9. 9. 0—The Earl of Derby.
15—	5. 5. 0—H. Hanbury, Esq.
16—	8. 18. 6—Messrs. Lee, Hammersmith.
17—	7. 7. 0—S. Rucker, Esq., Wandsworth.
18—	6. 16. 0—Messrs. Lucombe, Prince & Co.
19—	4. 4. 0—The Earl of Harrington.
20—	2. 2. 0—Mr. Denton.
21—	6. 6. 0—Messrs. Henderson.
22—	7. 7. 0—Mr. Games.
23—	6. 6. 0—Mr. Glendenning, Turnham Green.
24—	5. 15. 6—Messrs. Knight & Perry, Kings Road.

£164. 17. 0

24 small nectarine trees sold at about \$320, averaging more than \$30 a-piece! The buyers, as many of our readers will see, are chief-

ny nurserymen, who will set about propagating the sort—but as the earliest time at which they can offer young trees will be in the autumn of 1851—the next sale for the charity fund from the DUKE OF NORTHUMBERLAND'S stock, will probably bring pretty large prices also; though Mr. RIVERS announces that he expects to have 500 plants ready for that sale, which is to take place early this autumn. We trust some of our enterprising nurserymen will secure a plant or two. *Ed.*

GREAT SALE OF SHORT-HORN CATTLE.—We received the following interesting account of Mr. BATES' sale of stock, which attracted so much attention in England, too late for our last number. It will be seen that our friends Messrs. MORRIS and BECAR have secured some of the most desirable animals for this country. Mr. MORRIS is looking very closely into the condition and breeding of the best herds in Great Britain, with a view to improving his own at Mount Fordham, Westchester co., N. Y.—*Ed.*

MY DEAR SIR—The great BATES sale took place yesterday. It was a sight which England never has, nor ever will see again, as to the extent and quality of the herd. The attendance was from three to five thousand persons, from almost all parts of the world. The average price was about 63 guineas, the highest 205, and the lowest price for sound animals 30 guineas. Mr. COLLINGS' sale reached higher prices I believe, but it was when this country was in a more prosperous state than it now is, and the terms of sale must have been more liberal than these. Mr. BATES' heirs and executors are in chancery, and all business done through a receiver, who made the terms half cash down, and balance on delivery of the animals, which was to take place five or six days, at furthest, from the day of sale; the risk of the animals, immediately on being struck down, was to be borne by the purchaser.

I purchased three head, and NOEL J. BECAR, Esq., of Long Island, whose acquaintance I made on board the steamer, purchased four head.

I did not make my purchases until I had examined all the herds of any note in the counties of Yorkshire and Durham, which is the finest short-horned section in the world; and even then I did not make my final selection until I had *re-examined* Mr. BATES' herd several times, and the only animals I bid for I purchased. If I can get a complete list of the sale before the time of mailing this I will enclose it to you, but I am fearful that even this will not be in time for the steamer of to-morrow. I remain yours, respectfully, *L. G. Morris. Kirk Leavington, Yorkshire, May 10.*

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STEAM CULTURE.—"Have you heard," says a writer in "Chambers' Edinburgh Journal," "what the Recueil of the Societe Polytechnique" says about a new mode of turning waste steam to account? The proprietor of a factory took it into

his head to introduce his waste steam under the roots of Pine-apple plants; and such was the combined effect of heat and moisture that a magnificent crop of ripe fruit was the speedy result, and of a much finer flavor than usual, owing to the growing part of the plant having been daily exposed to the open air."

This is a subject to which we gladly direct attention, for we have long felt convinced that the true places for forced vegetables and fruits of all kinds are near fixed steam engines, whose waste steam will supply all the heat that is required, without the cost of a farthing for fuel. While glass was dear this was a suggestion which it would have answered no good purpose to have made; but now that timber is cheap, glass about one-sixth of its former price, and that bricks may be expected to fall 50 per cent., it is evident that we want no Lisbon for early peas, or New-Providence for Pine-apples, or even Penzance for winter broccoli, but that all such produce may be grown cheaper, and as well or much better in every manufacturing town.

As matters are now arranged the heat belonging to the waste water of steam engines is utterly lost, instead of being economised, and applied to the production of food, or luxuries, in both the animal and vegetable kingdom. There is no conceivable reason why ponds should not be warmed, and made to produce magnificent marketable fish, bred beneath the foliage of water lilies and other beautiful aquatics of hot countries, while the ponds themselves impart a gentle warmth to the neighboring soil, teeming with early kidney beans, early lettuces, early asparagus, early salads, green peas in March; peaches, plums, and apricots in May, with grapes and Pine-apples at all seasons. To effect this, little labor is wanted, no great elevation of roof, no wide span, involving costly rafters of timber or metal; but a series of low span-roofed pits, half sunk in the earth, to save materials. In such places the waste water would give warmth and moisture; the moisture might be regulated by various cheap mechanical contrivances; and by the application of a little steam power the atmosphere of such places could be kept in any degree of agitation that might be required for the healthiness of the vegetation. In short, summer breezes might blow, at the command of a screw, even though the external air was that of Iceland at Christmas.

The difficulty that gardeners experience with forced crops arises from the impossibility of ventilating them—from the difficulty of keeping the earth, in which the roots grow, warm without over-heating—the air, in which the leaves grow, dry without withering—and in maintaining a proper temperature without such a consumption of labor and fuel as render the charges to a consumer such as to excessively limit all sales. At the side of manufactories all such difficulties vanish. The power which works the looms and the spinning-

wheels will also work the houses in which plants are grown for market, without the effort being felt, and with little aid from manual labor. Canadian timber cut at the sawmills, duty free bricks, glass at 4d. a square foot, a little engineer's work, and a clever gardener, will furnish all the rest.

Suppose that a tank made of bricks, lined with inch Canadian planks, and six feet wide, were caused to enclose a given area; that the tanks were surrounded by twelve feet beds separated by pathways from the outside walls, and that the area enclosed by the tank were divided into six feet beds accessible by narrow sunken paths. It is evident that by a series of ridge and furrow roofs any such area may be perfectly covered over; and it is equally evident that, by some mechanical contrivance, such for instance as HURWARD'S screw of JONES and CLARK'S rack and quadrant, the whole of such roofs could be opened or closed at pleasure, without the least difficulty. The water from such roofs might be carried off through hollow brick supports, upon which the wall plats might be made to rest; and if the soil were dry enough, the whole structure, except the roof, might be sunk, so as to avoid the cost of thick outside walls, and to retain the heat extricated from the tanks. Head-room for working under might be obtained by excavation, and the earth so excavated would make the raised beds, which would be necessary in order to bring the crops close to the light. It is probable that air-heat enough for most crops would be obtained by this arrangement alone; but if it were otherwise, glazed pipes could be adapted laterally to the tanks, and made to convey more heated water to any place in which it could be required. In the same way subterranean irrigation might be effected; and in short every application of heat and water of which a gardener has need.

In such buildings plants would be grown as in the open fields, beds of radishes and spring onions in the coldest parts, beds of strawberries in others somewhat warmer; seakale and rhubarb in chambers under the footpaths; lettuces, endives, and all sorts of winter salads in the same quarters with radishes and spring onions; Pine-apples in the warmest parts; vines on the rafters, at such a distance as not to overshadow the crops beneath them; peaches and nectarines and apricots, with figs, plums, cherries, raspberries, and the like, in dwarf orchards apart, with the same crops beneath them as in the open fields. All this might happen in winter; in May the glass roof might be wholly removed, and the ground cropped as a market garden, with this great advantage that still there would be an advance upon the seasons, and that the genial warmth of the tanks and underground channels of heat would give to English crops an excellence now only known in the sun-heated soil of southern countries. The experiments upon out-of-doors cultivation of the Pine-

apple in summer, so cleverly tried at Bicton by Mr. BARNES, the gardener to Lady ROLLE, have conclusively established the fact that Pine-apples thus produced are infinitely better in flavor than such as are nursed in a common hot-house. It is probable that they would not cost much more than cabbages; and at all events that if sold at the price of the wretched things called West Indian Pine-apples, they would yield a great return to the grower.

In this way quite a new description of market gardening would spring up, a new employment for labor be discovered, and a new field for the profitable investment of capital. When carried out, Paris and Berlin and Brussels may be supplied with forced fruits and vegetables from Manchester, and new elements of national competition be thus introduced, by which all may largely benefit.

This kind of gardening is not, however, precisely what the writer in CHAMBERS' has referred to. The subject of his remarks is gardening without protection of any sort, by aid of earth heat alone; quite a distinct question, to which we may address ourselves next week. *Gard. Chron.*

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GRAPE-VINES IN A GREEN-HOUSE.—In looking over a mass of letters, before consigning them to the waste paper repository, I stumbled upon a statement of our editor's, that "vines, &c., grown in a green-house will come under your department." If I had not thus afresh been reminded of my duty it would have been no great matter for regret, as those who wished for information could easily find what was suitable to themselves in the statements of that veteran authority who provides over the fruit department. As some, however, might imagine that what was said respecting the forcing of vines could have but a remote reference to those growing in a greenhouse, which might be said to be gently assisted rather than forced, we shall at times advert to a few prominent points, and the first of these shall be the

Pruning.—It has been said that the donkey first taught the art of pruning the vine; man being merely an imitator, after seeing the effect of that very wise but much abused, and nicknamed *stupid* animal, cropping the points of the young shoots. Be this as it may one thing is certain, that seemingly trifling facts when reasoned upon evolve great principles. Even in countries where the vine is a native, climbing the rock and festooning the tree, pruning is resorted to; and how much more is it necessary under our glass roofs, where the concentration of the greatest possible vigour and fertility in the smallest possible space is the chief object aimed at. When once the matter is thoroughly understood, the process of preparing for pruning by *disbudding* in summer will become the chief subject for consideration. The whole of the phytological questions involved in such a

system we could not now find room for, though the unfolding of them would shed a light over many directions that, to the uninitiated, seem obscure and contradictory.

This *pruning* is best performed in the autumn, when the leaves are fast losing their green color, for then, though there will be little assimilation of fresh matter, yet the slow vital action still continued will swell and distend the parts retained, much more than if that action had been extended over the whole of the branches, and more especially if these branches to be cut away had been gradually deprived of their buds, though the leaves had been allowed to remain. The leaves on the stem, or parts left, should be allowed to hang until they drop or become yellow. Shortly after being cut, whether upon the alternate rod or the spurring system (the last being the best for a green-house,) the shoots may with propriety be unfastened from the roof, and trained horizontally along the front inside; the advantages of which will be the enabling the plants on the stage to receive the whole of the light from the roof unobstructed, the preventing the necessity of getting among the plants for picking up fallen vine leaves, the keeping of the vines more cool if much fire is needed during the winter, and the ensuring a more equal breaking of the buds in the spring from the whole of the stem being placed in a similar temperature.

Now, says one of our friends, this is all very well, though rather tantalising to some of us; for there, now, are my vines that were neither disbudded in summer nor pruned in autumn, but they are safe enough yet, because no more fire has been used than to exclude frost. But there is my kind neighbor, Mr. *Meanwell*, who was resolved to give me the go-bye this season, and astonish my family as well as his own with his early geraniums, fuchsias, &c.; but he forgot that the heat he gave to his flowers would accelerate his *unpruned* vines, and now he is in a pretty quandary, for his vines are all upon the move, and his favorite Sweet-water has pushed nearly half an inch; and when he tried to prune them, the cutting of the smallest shoot brought such a flow of sap, that—fearful it would act like a small *syphon* when employed to empty a wine barrel—he had recourse for stopping it to plasters of pitch, resin and wax; all of which evils might have been avoided if we had been *repeatedly* told to cut vines “in the autumn.”

In all such matters we hold two principles: the first is, that apologies and bemoanings for evils and derelictions of duty will not rectify the matter; the second is, that it is better to attempt to remedy what is wrong *late* than *never*. To our friend, therefore, we say, prune your vines directly before the sap is in motion, and keep the house as cool as you can for several days afterwards. To his neighbor we say, let pruning alone. Some wise men would say, prune by all means, and let

the vines bleed if they will; the expanding shoots will soon monopolise the juices that are *left*; we think not so lightly of wasting these juices. When the vine is fully in leaf it may be cut then with impunity, so far as bleeding is concerned; because the double processes of assimilation of fresh matter and the perspiration from the leaves will leave no unappropriated fluid to bleed. Thin and prune these vines when they are in leaf, and let them alone until then. No! here there would be a waste of energy; fertile vigor would be dispersed over many channels, to be afterwards discarded, instead of being concentrated upon a few that were destined to be retained. Besides, the check given to the reciprocal action between the roots and the branches would cause a considerable time to elapse before the branches left would receive more nourishment, in consequence of the others being removed. What is to be done then? Simply and quietly go over the vines when the buds are from a quarter to half an inch in length, or even more, and with the thumb or fore-finger quickly *rub* off all the buds upon the wood which you resolve ultimately to remove, and no bleeding will ensue. Mind, you must not *cut* them off close to the wood from whence they issue, or you might as well cut off the shoot at once. Any time after the plant is in full leaf you may remove the disbudded parts, which will often present different appearances; generally, if very long, most of them will be dead, some will be somewhat alive, though not increased in size, and in a few there will be a little exudation of cambium matter from the liber, or inner bark, where the bud was rubbed off.

By this means, therefore, the resources, of the plant are pretty well as much husbanded and directed into defined and desired channels, as if pruning had taken place in the autumn. The buds left will be invigorated, though at first they will not be able to monopolise all the sap that supplied the others. Hence, for some time the sap will rise into the disbudded part, and descend again when the stimulus is removed, until the greater expansion of the buds left monopolise it entirely. A similar operation you may see, in working *rapidly* the handle of a pump, where the bore of the tube is larger than the delivering jet. The water will rise above the jet; but that would not be the case if the jet was larger in size. The rising sap, therefore, may be made to flow upwards, downwards and horizontally, to where there are vents for its reception; and where none exist in the shape of buds and branches, it will make them for itself, by stimulating the organisable matter stored during the previous season. Its general course, however, is upward, and, therefore, in the vine the largest buds are generally formed near the points of shoots, a matter of great importance, so far as budding and pruning are concerned; but that will enter more into summer management than what is necessary to be at-

tended to now. The matters referred to, are as important in other plants as in the vine, though they may not show mismanagement so quickly. Much evil has been done by two classes of phytologists contending with each other—one asserting, that it is the swelling of the buds that causes the ascent of the sap; the other asserting, that it is the rise of the sap that causes the buds to swell and expand. Before the principles of pruning can be well understood, these contradictions must be harmonised. And they may be perfectly so, for both are right. The expanding of the buds, and the rising of the sap, are each in turns relative and co-relative cause and consequence to the other. No wonder though wise men smile at us, when from looking at a fact from different points of view, we squabble as lustily about it as those clever fellows who were within a little of *cudgeling* each other, because about the *chameleon's* color they could not agree. *R. Fish, in Cottage Gardener.*

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WOOLEN RAGS AS MANURE.—Many of our readers are old enough to remember the ridicule with which the proposition to use bonedust as a manure was received by the cultivators of the soil; and they must have heard, as we often have heard, the contemptuous query, "What! old knife-handles good for manure?" That ignorant prejudice has passed away; but another equally erroneous may arise in the mind of some of our readers, when they find that WOOLEN RAGS as a manure are the subject of our present observations. We are led to make these by two letters from very different parts of England; one asking, "Why the Kentish hop-growers turn woollen rags into the soil of their hop-gardens?" and the other, which may serve in part to answer the query, is from Mr. James Derham, of Wrington, near Bristol. He says:

"What do you think of woollen rags for manure? In the lower part of this county (about Crewkerne) cultivators attach great importance to them. There are a great many field-gardens there, and an immense quantity of *onions* are raised in the neighborhood. No one thinks of sowing unless he has dug in woollen shreds. These are collected all over the county, and sold at so much per ewt. I was round there the other day (March) and saw many wagon-loads of them; and in one or two instances I saw them plowing them in for *corn* (*oats?*). They tell me they put no manure besides; and if this really is a good thing, how very easy for many persons to accumulate a stock. I have a large heap myself, and should be glad to know your opinion as to the use of them. I have thought if they were first soaked for some days in liquid manure, it would *improve* them. Would they not do to apply to fruit trees in that state?"

Soaking the rags in liquid manure would be a very good mode of applying the latter, and there is no doubt they would do well in combination; for the liquid manure would be for the immediate use of the plant, while the rags, being slow in decomposing, would serve it during the after stages of growth. They would do better for fruit trees without being so soaked, for these trees, except when growing in very poor soil, require no stimulating like that afforded by liquid manure.

Woollen rags are by themselves, however, a good manure; and the willy dust, and other woollen refuse, so abundant in the great clothiery districts of Wiltshire, Gloucestershire, and Yorkshire, come within the designation of woollen rags; and as they slowly decompose in the soil, they all give out food highly useful to plants. During decomposition they produce ammonia and other matters soluble in water, every hundred parts being composed, like feathers, hair, &c., of about 50 parts carbon or charcoal, 7 parts hydrogen, 17 parts nitrogen, 24 parts oxygen and sulphur, and 2 parts saline matters. These last contain carbonate of potash, muriate of potash, acetate of potash and lime, all of which are salts, or bases of salts, useful to cultivated vegetables.

We can quote many practical authorities as to the value of woollen rags as a fertilizer. Mr. R. Slack, paper-maker, of Hayfield, Derbyshire, has used them for many years. He finds them good for *potatoes*; and adds, "for *hay grass* I have nothing that will produce so good a crop, spread upon the land in January, and raked off in April."*

Mr. J. M. Paine, writing in 1848, says that he had long been in the habit of using fifty tons yearly, paying for them in London from fifty to eighty shillings per ton; the dearest being those containing the most wool. Before putting on the land, they are cut into very small pieces, (two inches square being the largest,) and from one ton to half a ton per acre are sufficient. He finds them most beneficial to *hops* and *turnips*.

They are not so good when used mixed with lime; for although this decomposes them faster than when they are left to themselves, yet by such treatment the ammonia is driven off, in which their most active power is comprised.

We believe that the best mode of applying woollen rags to the soil is to mix them previously with the super-phosphate of lime, made from bones. This contains sulphate of lime also, which will fix the ammonia of the rags as they decompose, and the phosphate of lime is a saline manure, in which the rags are deficient.

Mr. Cuthbert Johnson, in his excellent volume on "Fertilizers," says, that "woollen rags

* Our own experience tells us that woollen rags are most useful to *potatoes*, *strawberries*, and *raspberries*.

are a very durable manure, remaining dissolving in the soil, and forming elastic and soluble manures for the service of plants, for periods varying from two years on heavy clays, such as those of the Kentish hop-grounds of the Weald of Kent, to three or four years on the light chalky soils on the valley of the Kennet in Berkshire. Of these rags, the consumption by the Berkshire and Oxfordshire farmers, but especially by the Kentish hop growers, is very considerable. I am informed by an extensive dealer in these rags, (Mr. Hart, White Lion-street, Bishopgate,) that 20,000 tons, at the least, are annually consumed by the farmers of the south of England. Mr. Ellis, of Barming, Kent, purchased annually between four and five hundred tons, almost exclusively for his hop-grounds. The cottager, even, is interested in these facts, for every shred of an old woolen garment is available for his garden—is an admirable manure for his potatoe ground; or, if he has not a garden, the collectors of rags, who gather for the large dealers, will readily give him a farthing per pound for all he can collect. *Cottage Gardener.*

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MANAGEMENT OF PEAR TREES.—The practice of what is termed root pruning has of late years attracted a good deal of notice. Root pruning is, however, no modern discovery. It has been followed less or more for a century, and perhaps even longer; but the system of docking the roots, and dwarfing trees, is somewhat new in this country, although well understood in the Celestial Empire. The result of this practice has been the production of stunted, bark-bound trees, the fruit from which partakes more of the character of the wood of the tree than that which we desire to find in a plump, well-grown Pear. I therefore take this opportunity of cautioning my amateur readers on a point which, to my personal knowledge, has sadly misled many of them. It may be stated, and in fact recognised as an axiom, that unless a tree is in a kindly growing condition, the fruit will at all times be inferior. Let it not be inferred from this that I mean over-luxuriance; in that case wood alone will be made.

Pears should be generously used when they are first planted; the ground should be in good heart, and manured near the surface. If in the course of a few years the trees indicate a tendency to produce more wood than is desirable either as respects the fruitfulness of the trees, or out-growing the limits originally assigned them; then cautiously examine the roots, and carefully curtail their exuberance, but this should be done by de-

grees, and the month of August should be preferred to any other for the operation.

The most important point in the management of Pear trees hinges on the summer pruning; many imagine that when the trees are planted there is nothing more to be done, except picking the fruit. This notion has converted some little gardens into little forests. During summer let the superfluous shoots be stopped back to within 3 inches of the old bearing wood, broken off rather than cut. This will cause flower buds to be formed at the base of the shoots so treated. The projecting part can be removed in autumn or winter close to the fruit buds; by following this mode of treatment the trees will be kept within a limited space, and their productiveness secured. *Gardeners' Chron*

CONTINUOUS BLOOMING ROSES.—I am preparing to give your readers a descriptive list of a few roses which I have called continuous blooming; but in truth none can be more so than the two which may be found in front of many hundred English cottages, and known as the common and crimson China. If the cultivators will but take the pains to remove the flowers as they fade, and prevent the seed-pods from swelling, they will not fail. I have been trying them on standards with varied success, because I have found that a frost which does not injure a plant on a wall or house front cuts off many of the young buds on the head of a standard. I have many standard Chinas of different varieties, and some called Noisettes, a score or two of which more or less partake of the character of the old China; but as they have only blossomed one season, I am not satisfied that I have seen enough to justify a positive opinion. I will merely say that among the nearest approach to my desideratum, and at all events much longer in bloom than many others, I may mention first the Noisette Fellenburg, flowering from the end of June to the end of November, in a strong clay soil, seven miles north of London. This is bright crimson, flowers double and small, joints short as the crimson China, and it has stood out three winters in a bleak situation, without protection of any kind, on ground but poorly drained. I will look over my notes, and give a few more, that even the first year of planting give promise of covering very close when fully established. I observe this rose is noticed elsewhere, but all the florists together cannot say too much of it, and those who want a few cannot do better than order Fellenburg, and as many more as they require "of the same habit and season." *Id.*



MASSACHUSETTS AGRICULTURAL SCHOOL.—The Legislaturc of our sister state has placed the subject of an agricultural school in the hands of the following commissioners, who are to draw up a plan, etc.: MARSHALL P. WILDER of Dorchester, EDWARD HITCHCOCK of Amherst, THOS. E. PAYSON of Rowley, SAMUEL E. ELIOTT of Boston, and ELI WARREN of Upton.

This is an admirable board, and we are heartily glad to find the name of Hon. M. P. WILDER, President of the Mass. Senate, at its head. Col. WILDER unites, perhaps more completely than any man in Massachusetts, a thorough knowledge of what an agricultural school should be, with that indomitable perseverance and energy which enable him to develop a good idea into an existing fact. It is not enough to *recommend* plans to legislative bodies, (as the commission in this state found last winter.) There must be a champion of steel ready to answer all objections and demolish all opponents. For the very good reason that we think Col. W. such a man, do we congratulate the state on the excellent selection made by the governor.

President HITCHCOCK, of Amherst. who is now abroad, will, we learn, undertake to investigate thoroughly the condition and management of agricultural schools in Europe.

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CLINTON POINT VINERY.—In reading our account of this vinery, of which we gave a plate and description in our last volume, many good cultivators were astonished at the magnificent crop produced by vines actually of but one year's growth in the borders, and not a few predicted that the vines had been permitted to bear too large a crop, and would therefore be greatly injured by it.

We confess that observation in similar cases would have led us to entertain the same opinion. But Mr. VAN RENSSLAER has convinced us that we were in error. The condition of the vinery is most admirable. The vines are not only strong and healthy, but have set a very fine crop—the bunches unusually large and perfect. Any cultivator may judge for himself of the satisfactory condition of the vinery by the following statistics: The number of vines in the house is 54; number

of bunches cut the first thinning 864; number of bunches cut the second thinning 684; number of bunches left on the fifty-four vines 590. It must be remembered that these are partly trellis vines, and are not all trained to the rafters.

It by no means follows from this result, that all vinerics may be allowed to produce fruit heavily the second season after they are planted. But we think Mr. VAN RENSSLAER has conclusively proved that a large crop of the finest grapes may, *if the border is very thoroughly prepared*, as in this case, be grown without the slightest injury to the vines. Indeed, give the grape plenty of food, and one may do almost anything with it.

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BURR'S STRAWBERRIES—I perceive that "Burr's new Pine" strawberry is described by Mr. HUNTSMAN and by Mr. PRINCE, in the third volume of the *Horticulturist*, pages 67 and 70, as a "*pistillate*" variety. Last spring, I obtained a few plants of that sort, in connection with one of my neighbors, from Mr. ERNST, of Cincinnati, and I find that at least three-fourths of the blossoms are perfect, or hermaphrodite. I enclose a specimen, hoping that your experience can inform me whether they are genuine or not.

When in London in March last, I procured some plants of the "British Queen," which is *the* strawberry of Covent Garden, but they died on the passage. Can you inform me where I can obtain them in this country? Yours, truly, B. Poughkeepsie, N. Y., May 18, 1850.

We had some of the same plants from Mr. ERNST last spring, and Mr. E. has made an error in disseminating them, which, of course, he will take pleasure in rectifying. The true "Burr's new Pine" is *pistillate*, and has been extensively sent out to various parts of the Middle States by the nurserymen at Rochester. We have seen plants from ELWANGER & BARRY and BISSELL & HOOKER, blossoming in various gardens lately, and all correct.

Some of our readers, who have the British Queen for sale, will oblige us by answering our correspondent through our columns. Ed.

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BURR'S NEW PINE STRAWBERRY.—We have just received from Mr. ERNST, a letter stating

that he had, to his great mortification, discovered the error referred to, and had promptly returned the amount paid him by his correspondents here and at Poughkeepsie. Mr. ERNST informs us that he fell into error, in this case, not from want of care, but from the very desire he had to put the genuineness of the plants beyond a doubt—for he procured the plants referred to from Mr. BURR himself. We have before us a letter from Mr. BURR to Mr. E., in which Mr. BURR deplores the mistake, and attributes it to the fact that the person to whom he delegated the task took up plants from a part of a bed where they had run together.

We will take occasion here to say, that though mistakes will sometimes inevitably occur in commercial establishments, from the necessity of propagating so large a variety—amateurs, who cultivate but small collections, when they undertake to send out a new or remarkable sort, have less apology for inaccuracies,—and they are held the more responsible, when the new variety is one originated by themselves. We have in our garden a case in point. A year ago a correspondent in Washington sent us, as a *present*, a new climbing rose of reputed wonderful beauty, the flowers "yellow, striped with brown." Plants were not to be had at the time less than \$25 each! We therefore gave a little special attention to the valuable present, took off our hat to it (mentally) as we walked by it, and conjured up the vision of clusters of yellow roses with brown stripes that would burst upon us the following June. Well, June is here, and the rose—the wonderful rose, is—a poor, common, semi-double Ayrshire! If our correspondent were here to see it, we are not sure that he would turn into a "pillar of salt," but we think he would be more dumb than a pillar of roses.

ALBANY & RENSSELAER HORTICULTURAL SOCIETY.—The first exhibition of this Society for the present year, took place on the 18th of June. Owing to the uncommon backwardness of the season, several articles, especially strawberries and roses, were not sufficiently advanced to make a large display; and it was, therefore, deemed expedient to omit the awards on fruits, and adjourn the competition in that department until the 27th. In several classes of flowers, also, there were no awards, for want of competition, and in all such the competition was kept open for the 27th; on that day the show of strawberries was very large and fine—acknowledged by all to be superior in extent and quality to any they had before seen. It comprehended all the most esteemed varieties known. The first premium for the best and most extensive collection, was awarded to LUTHER TUCKER, who showed twenty-three varieties; and the second to JOHN S. GOULD, who showed nine varieties. The first premium for the best and finest flavored variety, was awarded to B. B. KIRTLAND, for *Burr's New Pine*; and the second premium to E. C. McINTOSH, for *Hovey's Seedling*.

Among other varieties which received high commendation, were *Royal Scarlet*, *Burr's Mammoth*, *Burr's Columbus*, (very prolific,) *Ross Phoenix*, and *Old Hudson*.

There was a very handsome show of roses and other flowers, and a very good display of vegetables, considering the backwardness of the season. Some fine specimens of early cherries were exhibited; but they required several days more to bring them to a state in which they could be fairly appreciated.

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FRUIT CULTURE IN THE WEST.—I am doing something towards supplying this region with good fruit—with, however, but little profit to myself, owing principally to our changeable climate, (Lat. 39° 20', Long. 94° 33' 30")—this being the most westward village in the United States. I know something of the manner of cultivating in the valley of the Mohawk, but after five years' trial here, have not succeeded.

I recently became a subscriber to your invaluable periodical, in which I discover many of the causes operating to my disadvantage—one of the prominent is our hot summer sun. Many of my weaker apple trees make quite a curve the reverse to the 2 o'clock sun. Will whitewashing counteract this, as well as the premature moving of the sap in the winter?—if so, will stucco wash do? [Try white-wash, with about one-third wood ashes added to it. Better plant your orchards on the north sides of hills in all cases—if your district is hilly. Ed.] Another prominent source of evil arises from dry summers, usually followed by wet growing autumns, having the appearance of spring, often extending to the verge of winter—producing immature growth of wood. The first symptom of trouble after such a season, is the bursting of the bark at the surface of the thriffter varieties of apple trees, upon the first slight frosts. This, however, I remedy by wounding the bark at the surface, in most any manner, during the summer, so to produce a cicatrix, or run the knife spirally around the tree from the surface six inches upwards. But this does not remedy the evil wholly, for if a severe winter follows, the heartwood becomes doted, with all the bad results following in its train. I practice mostly root grafting. How can I check the growth of my trees in time to mature their wood? [By root pruning, or laying the roots partially bear. Ed.] I have a hearty, thrifty, growing variety of apple, a native, that appears to resist all vicissitudes—will it do to use it as a stock for the more delicate varieties? If so, at what height should they be worked? [No matter what height. Ed.] In giving you an idea of the eccentricity of our climate, I will state that I once saw apple trees in bloom on the 26th March, which produced an abundant crop without interruption of frost. But at this date we have severe frosts, night after night, and no more appearance of spring than a month since.

This operates severely upon the California emigrants, who are congregated here by thousands, waiting for grass. The fall of '45 continued until about the 18th Dec. pleasant and warm, the thermometer frequently at 75°, which it was on the 16th, and on the 20th 6° below 0! Similar changes often take place during the winter. I shall keep a weather table, and if you can make it serviceable, I will send you the result. [Will be glad to see it.] Yours, respectfully, F. Hawn. Weston, Mo., April 11, 1850.

P. S. The soil on which my nursery is situated is a strong limestone, producing 50 bushels of corn per acre with little labor, and rolling. The original growth of timber was Hackberry, White Hickory, Walnut, Elm, Linn, and different Oaks, but no White Oak.

After a continued severe winter, or an open winter with severe weather after, the roots of many of the apple trees are mostly killed, particularly the fibres. F. H.

BOSTON HORT. SOCIETY. — Dear Sir: I was much gratified with half an hour passed in the exhibition room last Saturday, and made a few rough notes, which I send you for publication.

In the first place, those floral giants, the *Tree poenias*, had a grand time of it, and the show of them by various contributors was larger than ever before seen in this state, and as I presume in the United States. Among the contributors of this most *burom* and altogether most magnificent of spring flowering shrubs, were Messrs. BRECK & Co., CABOT, WILDER, and HOVEY & Co. By far the largest collection was from Col. WILDER, who presented 80 flowers in 16 varieties. The most distinct varieties were *P. rosea superba*, *alba plena Belgique*, *Newmanii*, *Hisscina*, *Grand Duke of Baden*, *Le Soleil*, *Imperatrice*, *Josephine*, *Wallerii*, *rubra splendens*, *ocellata*, and *Heldii*.

Mr. BRECK showed a superb specimen of *Wistaria sinensis*. The novelties that attracted most attention were Mr. BARNES' new French *Verbenas*, and Col. WILDER's seedling *Calceolarias*. The *Verbenas* were *Iphigene* and *Reine de Jour*, both remarkably fine and distinct—superior to Robinson's *Defiance*. The *Calceolarias* from Hawthorn Grove were exquisitely beautiful—or rather most delicately grotesque, for they resembled clusters of delicately spotted tropical insects, half-poised in the air, as much as flowers.

The show of flowers and shrubs was fine, and of Hawthorns and Azaleas the variety was particularly rich. These were chiefly from Messrs. HOVEY, BRECK, and KENRICK. Miss RUSSELL and Miss KENRICK contributed some *boquets en corbeille*, charmingly arranged.

Mr. ALLEN, of Salem, as usual, carried off the prizes for forced fruits. There were 17 dishes of ripe grapes from his vineries, on the tables, four varieties of large well-ripened cherries, besides figs, nectarines, and peaches. Some remarkably

large and fine clusters of Black Hamburg grapes from Mr. BIGELOW of Brighton, were much praised. Yours, *A Looker-on in Boston.* June 10, 1850.

STRAWBERRIES.—Mr. Downing—A fortnight since my gardener produced quite a sensation among the juveniles of the household, by apprising us that from a large and thrifty bed of strawberries, (Hovey's Seedlings,) then in full bloom, we should not gather one berry. And sure enough, upon investigation all the plants were pistillates—when I directed him to transplant from a distant bed of other varieties, some staminate plants, and place them carefully among the Hovey's Seedlings—and the result is an abundant show of fruit.

The effects of this horticultural wedlock will not surprise you, though it may interest some of your readers. Evelyn. Dutchess Co., N. Y., June, 1850.

ON THE VIRTUES OF SPENT TAN-BARK TO THE HORTICULTURIST AND FLORIST.—Although averse to repeat thrice told tales, or to recapitulate what I have for the past twenty years both written and orally advised horticultural friends, respecting the many virtues of spent tan, I am induced, the more from your note appended to Mr. CLEVELAND's article, to make a farther record of my experience with that article, especially as it is so generally condemned, *ignorantly*, as a dangerous if not an useless substance in the garden. On the contrary I believe, and practice has satisfied me, that where it can be readily procured, it is a grand auxiliary and highly to be prized.

In detailing you the following experiments, I beg leave to say, they are all from my own practice and observation.

1st. A ton of *spent tan*, plowed or spaded under, and well comminuted with a stiff clay soil, in the fall of the year, will render such a spot fit for gardening purposes, sooner and better than ten tons of sand. It creates permeability, friability, and warmth, and decomposes, when thus covered, in the course of two or three years, giving great fertility to the soil. A stiff clay should have ten or fifteen per cent of fresh tan spaded to the depth of a foot or more, repeating the dose for a season or two. On such a spot, with other of course proper manures, I have had a fine garden, yielding such crops of asparagus, beets, carrots, &c., &c., as rarely to be found on sand or gravel soils.

As a mulching for strawberry beds, it has no equal. Put it on two or three inches thick. It warms the ground and prevents the plant *heaving* during the thawings of winter; and withal, it is the cleanest and sweetest article for the berries to lie upon—besides keeping the weeds down. The runners readily strike through it. Some use sawdust or turners' chips, which do tolerably well, but are not at all equal to spent tan.

As a mulching for dwarf pear trees, the gooseberry, and other fruit trees or shrubbery, it is cap-

ital, as retaining both heat and moisture for a long period. Where it cannot be obtained, the inverted grass sod stands I think next best.

For mulching vine-borders, I have used it many years, and endorse fully Mr. CLEVELAND's trial with it. But there are other virtues possessed by it, which I think are as yet but little known,—among which the power it possesses of drawing new roots, and giving new vitality to dried and apparently dead trees, such, for instance, as have been recently imported, or otherwise long out of the soil. The roots and tops being properly pruned, bury them nearly in a horizontal position in a bed of fresh tan, [fresh? does not our correspondent mean *spent* tan? Ed.] having a small admixture of clean sand, a portion of the tops only being left out. Should the tan be rather dry, wet it once well with rather hot water, and in ten to twenty days, I have found pear trees, roses, camellias, rhododendrons, and other shrubs, not only to have made beautiful roots, but the latent and apparently dead buds bursting and completely rejuvenated. The careful cultivator, however, will not fail at that point to watch them, that they may be suitably planted and shaded, &c., &c.; otherwise exhaustion and depletion must necessarily follow.

In my green-house I have a table of tan six inches deep, for placing pots on, it being sweeter and free from mouldiness, and is withal vastly neater and better than any other material for such purpose. In this bed I have been astonished to see how rapidly roots will pass the bottom of the pots, and wander among the tan. A *Passiflora* in a season rambléd ten feet, throwing up fine shoots, ready for potting. A Chasselas Fontainebleau grape in front of the house, with rods touching the damp table, sent roots into the tan, which were potted off and bore the following season. Indeed, either tender or hardy plants seem to delight and readily take root in it. And as a material for sticking cuttings, when slightly mixed with sand, or as a drainage for pot culture, I know nothing better. *W. R. Coppock. Long Sight Glace, Buffalo, N. Y.*

REMARKS.—Tan bark is likely to become popular in gardening, judging from the advocates it finds. We know little of its direct value, but we believe it will be found excellent for *mulching*—one of the greatest means of good cultivation in this climate. Tan, *fresh* from the pits, we know will injure some plants.

Professor MAPES, in his excellent Working Farmer, has the following note to the point—which explains why tan-bark is so well adapted to grape-vines and strawberries:—

"We observe that Mr. CLEVELAND has made a single experiment in the application of spent tan bark about the roots of an Isabella grape, and cautiously recommends it. We know the caution of Mr. C. renders his recommendations always defensible, but he need not fear recommending the

use of tan bark for grape-vines, or for any thing else that requires *tannic acid*. Both grapes and strawberries contain a trace of tannic acid, and we last year applied a solution of bark liquor to our strawberry beds with marked advantage."

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HARDINESS OF PLANTS IN NEW JERSEY.—Agreeably to the wish you expressed in the May number of the Horticulturist, for information as to the hardiness of newly introduced trees and shrubs, I send you a list of a few things—principally pines—which have proved perfectly hardy the past winter:

Abies kutrow,	Cedrus africanus,
— douglasii,	— deodara,
Picea pindrow,	Juniperus excelsa,
— welbiana,	— hibernicæ,
— alutissima,	— suecica,
— acutissima,	Cupressus elegans,
— cembra,	— torulosa,
— gerandiana,	Arancaria imbricata,
— pinaster,	Mahonia aquifolium,
— pinex,	Enonymus japonica,
— pyrenaica,	Spirea prunifolia, pl.,
— laurica,	Forsythia viridissima.
— morinda,	

I could send a larger list of pines, but thought it unnecessary to send any but the more recently introduced ones. *Plumbago larpentæ* has stood out with a slight protection. The flower buds of the *Paulownia imperialis* have been completely killed with us, although the winter was more mild than usual. Respectfully yours, *Jas. Goldie, Gardener to R. L. Colt, Esq., Paterson, N. J., May, 1850.*

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VINERIES.—I wish to solicit the attention of those of your readers who contemplate erecting vineries, or who feel interested in the cultivation of house grapes, to a few descriptive remarks on the Vineries of WM. NIBLO, Esq., situated at Yorkville, (on 84th st., New-York,) near the East river.

I visited these houses a few days ago, and I certainly did not regret having paid this visit, for I never saw vines in a more healthy, vigorous condition than these are in at the present time.

Mr. NIBLO erected these houses some six years ago; there are four of them, besides a handsome conservatory which adjoins the mansion. The latter is well stocked with fine large Rhododendrons, Camellias, Acacias, &c. There are about 2,000 feet of glass in these houses; they are built in a very neat and substantial manner, well supplied with water, &c., &c. Three of the vineries range parallel with each other, and are each sixty feet in length, with span roofs; and the fourth is a "lean-to," with an excellent propagating house at the back, and is 50 feet long.

Rather more than two years ago Mr. N. engaged the services of Mr. GALBRAITH, (his present gardener,) who is well known as one of our most successful cultivators of this delicious fruit, to take charge of his houses. When Mr.

G. assumed this charge, he found the vines in a very bad state; although planted four years, they had not then matured a single bunch of fruit. Mr. G. soon discovered of course the effects of bad soil, bad culture, or something or other wrong about them, and as, like a sound reasoner, he usually goes back from effect to cause, he thought the most expeditious, and most certain way to discover the cause was to dive at the root of the matter, and to the roots he went, with spade in hand, and dug them all up, every vine; this was in April, 1848. He found that the roots of most of the vines had rotted half away, and all of them were in a sickly unhealthy state, chiefly for the want of proper drainage to the borders. He immediately went to work, drained the borders well, got a suitably prepared compost, and after shortening-in the roots well, he replaced them again in the new border.

One of the houses had been occupied during the winter with green-house plants, and the temperature necessary to keep the plants from freezing, had started the vines into growth, and when the operation above described was performed on the roots, some of the young shoots were from three to four feet in length, and had showed some bunches of fruit; notwithstanding this, they were so managed that not a single leaf flagged, and those bunches were ripened the same summer. Last year they produced a fair crop, and this year they can be seen in full fruit. Owing to the very severe weather we had a few weeks ago, Mr. G. informed us that it was with great difficulty that he could keep the temperature sufficiently high in the span roof houses to "set" the Muscats; but however, they now look as promising as most of the others. The house "No. 4" was planted with young vines, 17th April, 1848. Last year they were allowed to bear a few clusters, and now they are literally covered with fruit from the bottom, half way up to the rafters.

I have been induced to send you this communication, partly from having witnessed and heard of so much disappointment and so many failures in house vine culture. These failures generally occur in this way:—A gentleman makes up his mind to build a vinery, he puts one up, sends somewhere or other for his vines, gets as many varieties as he can, perhaps a different sort for each rafter; the border is made—i. e. the soil is scouped a foot deep probably, and two or three wide, and what is thought to be a rich and suitable compost is put in its place. The border is perhaps never examined as to whether it requires drainage, or whether the subsoil is of too porous a nature. Well, the vines are planted thus, and probably in a year or two they may show some fruit, and in all probability some of them marked at the bottom of the rafters "Black Hamburg," or

"Muscat of Alexandria," will prove to be something else not better perhaps than the common Isabella of the garden. [Our correspondent presents a picture of a very low state of knowledge in vine culture, which we hope is not drawn from the life, as that culture is usually seen on New-York island. On the whole we think the management of vineries is well understood in this country, and there are hundreds, especially about Boston and Philadelphia, where foreign grapes are grown in the highest perfection. Ed.]

I will close these few remarks by saying, drain (if required) and well prepare your borders, procure from a respectable nursery, or some other reliable source, a few only of the best and well known varieties, (as there are not more than 6 or 8 sorts that are worth house room.) employ a skilful practical man to take care of them, and then I think we shall not hear of so much chagrin and disappointment in this department of horticulture. Respectfully yours, *Vitis*. New-York, May 15, 1850.

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NATIVE BOTANY.—I was much disappointed on my arrival in this country to find that comparatively few of its inhabitants look into its indigenous floral beauty; few penetrate the woods to observe the lovely grandeur of Flora's territory. A few days ago I found in a wood, in the vicinity of this city, *Philadelphia*, what to me was a rich treat, having been more accustomed to pluck the weeds which are to be met with in the British Isles. I first observed in flower on the 21st of April, *Sanguinaria canadensis* or Blood root.—This plant presents a pleasing appearance, and is quite abundant. It has marked medical properties, varying from the quantity *exhibited*—of the order *Ranunculaceæ*, or Crowfoot tribe. I observed *Ranunculus hirsutus* and *rhomboides*; also *Caltha palustris* and *Thalictrum anemonoides*, the latter a very singular species, and likely to mislead the novice in Botany. The *Hepaticas* are still in flower. I found a white variety growing alongside the blue. *Podophyllum peltatum* will flower in a few days. This is known as the "May apple," has a sub-acid fruit which is eatable and is called Wild Lemon also. The other portions of the plant are eathartie. *Isopyrum fumarioides* is also here a very delicate plant, just showing its little cluster of flower buds. The *Claytonia virginica* (order *Portulacæ*) is in full flower, and in great abundance. Also *Chrysosplenium* or Golden saxifrage, easily overlooked, but not less curious on this account. The *Saxifraga alba* is in fine condition for specimens. All who admire and would preserve specimens of Nature's more delicate offspring should be stirring now; the flowers are fast unfolding and must be transferred to the Herbarium, for they will not linger long. Once there, we may view their shadow but the essence fades. Yours, &c., *Hortophilus*. April 22.

INSECT ON THE GRAPE VINE.—"The Horticulturist" has for some time past afforded me much pleasure and instruction. The work was recommended to me by Hon. S. Young, of Ballston, whose *enthusiasm* in the cultivation of trees and flowers may be known to you.

The communications and inquiries received by you and published in the Horticulturist, constitute a very interesting part of the work, and the information sought and the subject of this communication may be useful to others.

Upon a recent examination of my hardy grape vines, which for some time previous, had given great promise of an abundant crop, to my great disappointment and mortification I discovered that the buds upon many of the vines had been almost entirely destroyed. At first I supposed "Jack Frost" some still night had touched them with his icy finger. I consulted my daily record of the thermometer and found that we had not had frost to injure them. I suspected at once that an enemy, heretofore unknown and unseen, had trespassed upon my rights. Upon more careful examination, I found that the buds had been *bored*, and the centre part was missing. I have a large number of grape vines, some of which for many years have produced large crops, and I had never before discovered such an attack upon them. I resolved to hunt up the *enemy*. At length I caught *him* busy at his trade—a small green bug. I send you a *pair* of the *rascals*. Do you know him? I presume they will reach you alive and *kicking*. They are quick on the wing and have locomotive power not only on foot, but by a peculiar *jerk*, somewhat after the manner of the "*snapping bug*," so called. Can you inform me *how* and *when* to guard my vines from their attack? They are found in pairs. I noticed that the young vines had not been attacked, and also that the buds upon branches of the old vines which rested upon or near the ground had escaped.—The Isabella had suffered more than other vines.

If you can give me any information in regard to this new *enemy* to the vine in your June number, I shall be thankful. I am truly yours, &c., Thomas M. Howell.

ANSWER.—The insect reached us alive. It is the grape-vine flea-beetle (*Haltica chalybea*) We have never seen this species in a living state before, nor have we seen its ravages, but the insect (a small glossy, greenish-blue beetle, about three-twentieths of an inch long,) is accurately described by DAVID THOMAS, in the 26th vol. of Silliman's Journal of Science, and also noticed in Harris' Treatise on Insects. It appeared in great quantities in Cayuga co., N. Y., according to Mr. T. in 1831, and the same season was seen in great numbers in New-Haven, Conn., doing, in both places, great mischief by eating out the centre of the buds and destroying them. The habits of the insects are not yet perfectly understood. Mr. THOMAS thinks it undergoes its final trans-

formation in the ground, coming out to attack the buds in May. The beetle lays its eggs on the vine. These change to "small chestnut-colored, smooth worms," that feed on the leaves of the vine in summer and pass the winter in a larva state, in the ground, coming out perfect beetles in the spring.

Assuming this to be correct, the best remedy is to destroy the insect when in the worm state; it is found upon the leaves in summer, by syringing the leaves with tobacco water. Next, look over the vines carefully in March, or before the least vegetation commences in the spring—strip off all the old or loose bark and white-wash the entire plant (which of course has been previously pruned,) buds and all, with a mixture of white-wash and sulphur—a pound of the latter to a pail-full of the former. This will *deter* the insect from boring the buds. Next to this we should say dusting the buds with powdered lime, while the dew is upon them in the morning would be the best remedy. This is recommended by HARRIS. Of course the most effectual way of getting rid of the pest is to destroy it in the worm state, with tobacco water.—Ed.

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PRACTICAL SCHOOL FOR GARDENERS.—In your leading article in the April No. of the Horticulturist, you express your regret at the non-existence of a practical school for gardeners, wherein their knowledge of European gardening might be remodeled to suit the climate. You go on to say, that the difficulty of getting foreign gardeners to enter this school would be removed by the readiness with which they could get from 50 to \$100 a year more than they do at present, after spending 1 year there, and having its certificate to produce.

I assure you that to the uninitiated your suggestion looks well on paper—but men like me, who have spent ten summers here, and know something of the liberality of American employers generally, would not be caught by the golden vision you hold out. I am personally acquainted with a dozen gardeners who live with some of the first merchants in New York city—they give their employers entire satisfaction, and yet \$30 per month (and many of them only \$25) is the most any of these gentlemen will pay—while these same merchants pay the porters in their stores from 35 to \$40 per month for the very scientific process of sweeping out the store and nailing up a packing box. There is an intimate friend of mine who gave up the trade last summer, and is now getting \$35 per month in a hardware store in Maiden Lane, N. Y. Would it not be better for a gardener to be in the New York police at \$600 per year than live with one of your aristocratic neighbors on the banks of the Hudson for 300 or \$360 per year? I mention these facts to show at what a discount the science of gardening is at, in these United States. In a country like this, where the chances of doing better are so numerous, it would

be absurd to suppose that practical gardeners coming to this country would spend a year in your preparatory garden. How is it, Mr. Editor, that our enterprising American young men never try to become gardeners? The answer is quite simple—the wages they would get when they had acquired a knowledge of the profession, do not come exactly up to their ideas of making money, and any thing that your genuine Yankee don't make money at, there is no use in Europeans trying. The science of gardening is left to us Europeans, and very often Americans, whom we have taught the little they know, turn round and be our critics. I think I can show that your lament about the scarcity of good gardeners among us is imaginary. How is it that our leading commercial gardeners never have any difficulty in getting first class men? The reason is obvious—they know how to appreciate talent. The rivalry of trade compels them to employ the best gardeners, which they do, and pay them in round numbers just double the wages per year that your aristocratic neighbors pay their men. Then take our liberal and enterprising amateurs—CALEB COPE and JAMES DUNDAS of Philadelphia, Mr. CUSHING and Col. PERKINS of Boston, and Mr. BECAR of New York—have they any difficulty in procuring first rate men? A visit to their places will answer the question. These gentlemen pay the very highest wages, and furnish their gardeners with every facility for displaying their talents.

Now, Mr. Editor, these gentlemen find as good gardeners as they want, (all Europeans.) Their science has been all acquired without passing through your preparatory garden, and I see nothing in the way of every employer in the country to go and do likewise. To an intelligent gardener a residence of two years in our climate gives him a thorough knowledge of how to proceed. It matters not where you place a scientific gardener—whether at Cape Cod or the Cape of Good Hope—whether in a moist climate or a dry one—he will very soon learn how to combat the difficulties that surround him, the theory being the same. All he has to do is to shape his practice to the climate.

That the country is flooded with half gardeners I will readily admit, but who has called them into existence? It is the parsimonious employers, with whom the greatest qualification they can produce is, that they will work cheap. My object in writing this communication, was to show that there are plenty of good gardeners in this country, and that the backward state of horticulture on this continent is to be attributed more to the illiberality of the employers than to a want of scientific knowledge among the gardeners; and a visit to the gentlemen's places that I have quoted proves the truth of Sam Patch's assertion, "that some things can be done as well as others." Your appeal for help to the Mass. Horticultural Society, I think will be made in vain—the funds of that in-

stitution, although ample, seem to be just enough to divide in prizes among its own members. Respectfully yours, *John Quinn. Ida Farm, Troy, N. Y., June 19, 1850.*

ANSWER. Mr. JOHN QUINN has our thanks for the way he shows his colors and manages his guns, though he comes rather sharply into action.

We happen, fortunately, to know Mr. QUINN, and have seen what he can do with his proper weapons—in other words, that he is an excellent gardener. The best answer, therefore, to the position he takes, that really good gardeners cannot be found in this country, is to be drawn from the man himself—for we believe he has had higher wages for the past five years, by nearly one half, than the majority of gardeners get in this country—and solely because he is such a gardener as we would have our school send out.

We quite agree with him in his complaint that more than half the employers will not give a good gardener fair wages.* But this is owing to two causes—first, that the employers do not know what a good gardener is, and second, that there are hundreds of *professedly* good gardeners in America, who are almost good-for-nothing—but who offer to work cheap—and until there is some way of determining the value of what is offered, it is clear that those who are ignorant of it will be taken in. Hence, again, the utility of our proposed school. No doubt an able, clever man will quickly adapt himself to the climate—but as we happen to have had such in our own employment, and have lost many valuable plants while they were busy in this kind of adaptation, we think it would be better to have them acquire this at public cost.

The reason why commercial establishments, nurseries and the like, get the best gardeners, is that they send out to like establishments abroad and receive men of certified character. Few private individuals can do this, and have to take gardeners on their own showing. The school for gardeners would therefore benefit employers by sending out men with reliable testimonials, and would gradually raise the wages of competent gardeners, by forcing those who only call themselves such, to fall back into the ranks of day laborers. Ed.

COMMON NAMES OF WILD PLANTS.—I know not how the Horticulturist would flourish without the monthly spice of your untiring correspondent JEFFREYS. It is true, he sometimes seasons our dishes with assafoetida, and sometimes with rose-water, but then there is an air of honesty, earnestness, and sometimes of enthusiasm about him, that every body likes. Besides, he seems to be an universal savant, for neither yourself nor your scores of correspondents can start a subject on

*The difference between being a porter in a store at \$5 or \$40 per month, and having to pay the increased expenses of life in a city, and having a much less sum in the country, with perhaps a house and garden free, must be taken into account. It is not what a man gets, but what he can save, that makes his profit.

which he is not ready to say at least a few words. As a general rule, too, his suggestions are much to the purpose, having often, to my mind, been the means of introducing new ideas and improved methods. It is true, that when his critique, on the subject of deep growing roots, left me to the tender mercies of Dr. STEVENS, I did not think he had got to the root of that matter; but now, when he thinks "I deserve a gold medal," for having talked up to the mark about Indigenous Flowers, I cannot but admire his taste and knowledge. Such is human nature.

And now for his suggestion of giving the common names of my indigenous list. I think this is a timely as well as a reasonable hint, and therefore, as far as the plants have common names, shall give them, and I hope in season for the next number. Where there are several species, the name of the genus will perhaps be sufficient.

<i>Acorus</i> —Sweet-flag.	<i>Liatris</i> —Gay-feather.
<i>Acer</i> —Maple.	<i>Leptandria</i> —Culver's physic.
<i>Aristolochia</i> —Snake-root.	<i>Lygodium</i> —Climbing Fern.
<i>Apocynum</i> —Dog's bane.	<i>Mimulus</i> —Monkey Flower.
<i>Aquilegia</i> —Columbine.	<i>Myrica</i> —Bay berry.
<i>Actaea</i> —Bane-berry.	<i>Nymphaea</i> —Pond Lily.
<i>Arbutus</i> —Bear-berry.	<i>Osmunda</i> —Flowering Fern.
<i>Asclepias</i> —Milkweed.	<i>Prinos</i> —Spotted Alder.
<i>Aster</i> —Star-flower.	<i>Pyrola</i> —Winter-green.
<i>Coptis</i> —Goldthread.	<i>Rhodora</i> —Canadian Rhodora.
<i>Caltha</i> —Cocksip.	<i>Rhododendron</i> —Swamp-pink.
<i>Cornus</i> —Dog-wood.	<i>Salix conifera</i> —Cone-bearing Willow.
<i>Clematis</i> —Virgin's boacer.	<i>Staphylea</i> —Bladder-nut.
<i>Conivalaria</i> —Solomon's seal.	<i>Spiraea</i> —Hard-hack.
<i>Clethra</i> —Sweet pepper.	<i>Sarracenia</i> —Side-saddle flower.
<i>Ceanothus</i> —Jersey tea.	<i>Sagittaria</i> —Arrow-head.
<i>Cypripedium</i> —Ladies' slipper.	<i>Solidago odora</i> —Sweet golden-rod.
<i>Dicra</i> —Leather wood.	<i>Typha</i> —Cat's-tail.
<i>Epilobium</i> —Willow-herb.	<i>Thalictrum</i> —Meadow-rue.
<i>Equisetum</i> —Scouring-rush.	<i>Triosteum</i> —Fever root.
<i>Gentiana</i> —Sawwort gentian.	<i>Trillium</i> —Trillium.
<i>Gerardia</i> —Yellow Gerardia.	<i>Tephrosia</i> —Cat-gui.
<i>Hamamelis</i> —Witch hazel.	<i>Verbascum</i> —Moth mullein.
<i>Habenaria</i> —Orchis.	<i>Viola</i> —Bird's foot violet.
<i>Hepatica</i> —Liverwort.	<i>Virburnum</i> —Noble-leaved vib.
<i>Kalmia</i> —Laurel.	<i>Arctostaphylos</i> —Arctowood.
<i>Lilium</i> —Yellow and red Lily.	<i>Vicia cracca</i> —Tufted vetch.
<i>Lysimachia</i> —Loose stripe.	
<i>Ludwigia</i> —Seed-box.	
<i>Lobelia</i> —Cardinal flower.	

I might extend this list quite readily by extracting from that of Mr. GREENE, of Boston, published in your May number. He has added several fine specimens, and among them *Calypso Americana*, *Sabbatia chloroides*, *Panax quinquefolia*, all of which I should like to have by way of exchange. Yours truly, J. L. Comstock. Hartford, June 6, 1850.

.....

NOTES ON GRAPE CULTURE.—Notwithstanding all that has been written and is daily appearing on the culture of the grapevine here, there is a lack of information as to its general management every where around us; as well with people of high practical pretensions as with the mechanic and farmer. It is for the latter, and not for proficients that I venture to become a contributor to your Journal. I shall not refer to any of the modes adopted in scientific works and extensive

vineyards, but to that which is seen every where at the mechanic's cottage and the farm-house. Our people all plant grapes for two essential objects, viz: Shade and fruit; but ere many years elapse the vines become stunted and feeble, the fruit *shanks* and shrivels, and nothing but shade can be obtained. The cause of this may be justly attributed to two prevailing evils, want of proper manure and bad management.

The great relish every body has for this fruit, in our warm climate, not unfrequently induces the majority of our people to forfeit quality for quantity. In endeavoring to achieve this object they seldom cut out any but the extreme tops of the branches in the winter pruning, while in summer every eye is left to bear shoots, and every shoot to ripen all the fruit it shows. In this confused state they become, by the end of summer, a complete mass of worthless, ill-flavored fruit, and useless, half-ripened branches. Others boast of treating theirs something more scientifically, in attempting to prune on the spur system, but with equally bad results.

The manner in which it is performed, almost without exception, being this; the main branches being once established, they keep shortening the young shoots, year after year, till in a single spur there are several years wood, looking more like so many antlers than any thing else.

This is one of the principle causes of *shanking* and shriveling, and the older those spurs are the more will those diseases increase; hence the necessity of making a proper reserve in the summer dressing, and the sooner it will be now attended to the better. There is little or no difficulty in selecting a due supply of young shoots at this season. Those nearest the main branches should be preferred; if growing from the main branch so much the better, for it is such that always bear the largest and best fruit. All superabundant and useless branches should be cut away; even your favorite old spurs can be cut now with as much safety as in the fall (besides gaining a season's growth,) tying the young shoots to their places to become the bearing wood of the next year, and nipping all laterals they produce *above the first eye*, and not cutting these laterals entirely away as too many do.

This is a point seemingly but little understood, and to which I would like to call special attention, for this reason, that when the *laterals* are cut clear away the principal eye will soon break again, and exhaust itself in the production of useless branches. After a few years of this injudicious treatment it will be denounced as a barren and worthless variety, and the plant vender of whom it was purchased, will get his share of the blame.

Those wishing information on the manure best suiting the vine can consult the articles on special manures in the Horticulturist. *Fidelius*.

ANSWERS TO CORRESPONDENTS.

PRUNING YOUNG TREES.—*A Canada Nurseryman*, (Toronto.) We prefer early summer pruning for all young trees like those you refer to. The branches then heal over rapidly, without attention. You may prune with safety at any season if you apply to the wound the shellac mixture given in our *Fruits and Fruit Trees*; otherwise the wounds (except in early summer,) are liable to decay, especially in a northern climate.

LINDEN TREES.—*Two Subscribers*, Boston.—The spotted leaves of this tree like those you sent us we have seen before. They appear to us to be affected by a disease of the cuticle or outer covering of the leaf—owing, as we think, to some defect in the soil, as we have never observed it in deep, rich soils, which this tree prefers. The best remedy is to dig a trench two feet deep and as wide as you can afford, around the outside of the ball of roots, and fill it with rich soil—rather retentive of moisture, with a little salt sprinkled through it—say at the rate of half a peck to a trench for a tree 15 feet high. The autumn is the best time to do this.

PEAR BLIGHT.—*J. W. J.* (Philadelphia.) We think the foliage you sent us discolored by a species of fungus—perhaps induced to fix itself upon them by a diseased condition of the trees. Slack fresh lime with brine, mix it with about five times its bulk of soil, and let it lie for a fortnight, then apply it as a top dressing to the roots at the rate of half a peck of lime to a small tree just beginning to bear, and half a bushel to a full-grown or old tree.

GRAPE VINE.—*H. L. S.* (Geneva, N. Y.)—You should have cut your vine down to one strong bud (or rubbed off all the others,) when you planted it. It will answer now if you let but one shoot grow to each rafter, pinching off all the others.

ELM TREE INSECTS.—*H. A. Wright*, (Newport.) The insect which infects your elm trees is we presume the canker worm. To prevent their attacking the trees they should have a belt or girth of coarse canvass or cloth closely wound round their trunks, and smeared with fluid indiarubber. To make it fluid burn a pair of old overshoes over a gallipot or pan, (into which it will fall drop by drop before a very hot fire,) where it will remain fluid. It is so sticky that the insects in crawling on the trunk will be caught and captured.

RASPBERRIES.—*W. W.* (Salem, Mass.) Your crop has failed for two years past because the plants have been so long on the same soil that they have exhausted it. Make a fresh plantation in another part of your garden—trenching in a little plaster and a plentiful dressing of ashes before hand.

CHINESE WISTARIA.—*X. Y. Z.* (Buffalo.) No plant is more easily propagated. Take down some of the long shoots of the present year's wood

immediately—bury a portion midway between the root and end under the surface, wounding the bark here and there a little with the knife when covered with the soil, and they will root finely by next November. July is the best month for making layers of roses or any hardy shrubs.

RHODODENDRONS.—*A Beginner*, (Newark, N. J.) You will find it not difficult to cultivate those plants if you will choose a shady border on the north side of a fence or in the shade of trees; though in the latter case the roots must be cut off the trees or they will exhaust the soil too much. If your soil is heavy mix peat earth well decomposed, and coal ashes with it.

BUDDING.—*W. Thompson*, (Clinton co., N. Y.) The plum fails usually because it is left too late. It should be inoculated the first moment the buds begin to be firm—which with you will be about the fourth of July. Roses should be budded immediately.

CAPE JASMINES.—*A Lady in New-England.*—Your plants are sickly because they have not the right soil. Send into the woods, get a basket full of the rich mould under the decaying leaves, and mix it with about a third white sand and a handful or two of fine charcoal, and shake off a good deal of the old soil from the roots and repot them in this compost. They should be kept in summer in a half-shaded spot.

PEACH TREES.—*W. Mayer*, (New-York.)—Your peach trees have the yellows, and the better thing would be to dig them up and burn them. Get a fresh stock from some district of the country where the trees are sound and healthy. The seedlings from the stone this spring will be fit to bud in September.

CHERRY SEEDLINGS.—*W.*, (Chicago.) If you wish to be sure of the vegetating of the cherry stones next spring you must sow them directly after they are gathered. Plant them in drills, like peas, about an inch deep, and cover the surface of the ground with hay, straw, litter, tanbark, or whatever other mulching is most conveniently obtained. Seedlings from Morello (pie cherries,) do not make good stocks for working on. The black Mazzard or "common Black English cherry" is preferred.

CARNATIONS.—*M. T.*, (Baltimore.) Make the layers as soon as possible after the flowers have faded; and in order to secure their forming an abundance of roots you should water them every evening. Cover the surface of the soil with a little new-mown hay to keep it cool.

BRUGMANSIA.—*J. P. W.*, (New-York.) The plant you describe as the double white Datura, is known as the *Brugmansia Knightii*—and, grown in a large tub or turned out in a rich border in summer, is one of the most showy of exotic shrubs. It is easily obtained of the principal florists and grows readily from cuttings.

NATIVE GRAPES.—*Vitis*, (New-Bedford.) We

are familiar with the native white grape you speak of. It is the Early Fox grape, and though reddish amber color in the sun, is pale green in the shade. But few berries are borne in a cluster.

We assure you this grope is too "foxy" in its flavor, and has too firm a pulp to be tolerated by good judges. It however, makes a delicious jelly.

PENNSYLVANIA HORTICULTURAL SOCIETY.

The stated meeting of this society was held in the Chinese Saloon on Tuesday evening, June 18, 1880. The president in the chair.

Premiums awarded on the occasion were,—by the committee on plants and flowers,—pinks, for the best six, to William Hobson. Hot-house plants—for the best three specimens, to James Bisset, gardener to James Dundas; for the second best, to Maurice Finn. Green-house plants—for the best three specimens, to Maurice Finn. Collection of plants in pots—for the best, to James Bisset; for the second best, to Maurice Finn; for the third best, to Wm. Buruley, foreman to John Sherwood. Design of cut flowers—for the best, to Maurice Finn; for the second best, to Ben Daniels. Basket of cut flowers—for the best, to Ben Daniels; for the best bouquet of indigenous flowers, to Robert Kilvington. And special premiums, for a very large display of cut roses, three dollars, to Robert Buist; for two beautiful bouquet designs, three dollars, to Patrick Gallagher, gardener to Miss Gratz; for a handsome basket of indigenous flowers, two dollars, to Mrs. Dr. Coleman, of Pemberton, N. J.

By the committee on fruits. Grapes—for the best three bunches, of a black variety (Black Hamburg,) to Ben Daniels, gardener to C. Cope; for the best three bunches of a white variety, to Fred'k Wolf, gardener to Mrs. Gambes, Montgomery county. Strawberries—for the best two quarts of a named variety, (Hovey's Seedling,) to Robert Lovelace, gardener to Mr. Warne, Frankford; for the second best ditto, (Hovey's Seedling,) to Anthony Felten; for the third best, (Moyamensing,) to Mr. Page, Burlington, N. J. Cherries—for the best three pounds, (May Duke,) to Isaac B. Baxter; for the third best, (Early Richmond,) to Wm. Hobson. And a special premium of five dollars to Ben Daniels, for eight varieties of grapes, three of peaches, and one of nectarines. The committee recommend to the notice of the meeting the following varieties of strawberries, viz., Methven Scarlet, Baltimore, Cushing, and six seedlings by Dr. Brinckle.

By the committee on vegetables. For the best display by a commercial gardener, to Anthony Felten; for the best display by an amateur gardener, to Ben Daniels, gardener to C. Cope; for the second best display, to P. Gallagher, gardener to Miss Gratz.

The corresponding secretary reported a communication, received from Dr. J. A. Kennicott, of Illinois, in acknowledgment for his election as an honorary and corresponding member.

OBJECTS SHOWN.—*Plants*—By Ben Daniels, gardener to Caleb Cope, *Stanhopea grandiflora*, *Ceropegia elegans*, *Brugmansia knightii*, *Mimulus cardinalis*, *Scutellaria Venetianii*, *Russelia juncea*, *Lantana crocea*, *Acropea Loddiesii*, *Justicia carnea*, *Achimenes longiflora*, *A. patens*, *Cuphea platycentra*, *oncidium* sp., *Fuchsia Napoleon*, *Hero*, *Lady Sale*, *Chauverii* and *Mirabilis*.

By James Bisset, gardener to James Dundas, *Æschynanthus Bosceanus*, *Zygopetalon*, 8 *Cuphea platycentra*, 3 *Achimenes* sp., 8 *Calceolaria*, 8 *Verbena*, 6 *Fuchsia*, *Mathiola* and 8 *Viola*.

By Maurice Finn gardener to John Lambert, *Pentas car-*

nea, *Ixora rosea*, *Gloxinia rubra*, *G. arborea*, *G. seedlings*, *Rondeletia speciosa*, *Hoya carnosa*, *Gnaphalium orientale*, *Brugmansia floribunda*, *Calceolaria meteor*, *C. rugosa*, *C. seedlings*, *Hydrangea*, *Fuchsia Chauverii*, *F. exoniensis*, *F. rosea alba*, *F. fulgens*, *F. mirabilis*, *Correlina*, *Petunia*, *Pelargonice*, *Rosea* and *Cineraria*.

By John Sherwood's foreman, *Cestrum aurantiacum*, *Fuchsia magnificat*, *F. beauty supreme*, *F. flavescent*, *F. conqueror*, *F. recurva*, and 2 *F. globosa*.

By Patrick Gallagher, gardener to Miss Gratz, *Agapanthus umbellatus*, *Lophospermum*, *Hydrangea hortensis*, *Veltheimia viridiflora*, *Begonia argyrostigma*, *B. parviflora*, *Petunia Duke of Bedford*, *Fuchsia Parson*, *Nymph*, and *Rosea*, and *Verbena*.

By Robert Buist, roses, a great number of cut flowers, very fine, and of the choicest kinds.

By Wm. Hobson, choice pinks.

Designs and Bouquets.—By Maurice Finn, a design in form of a candelabra, bearing many beautiful bouquets. By Ben Daniels, a pretty design and basket. By P. Gallagher, a moss vase and cone bouquet. By Wm. Hobson, many bouquets. By Robert Kilvington, a basket of indigenous flowers. By Mrs. Coleman, Pemberton, N. J., a basket of indigenous flowers. By Thos. Meehan, a bouquet of indigenous flowers.

Fruit.—By Ben Daniels, gardener to C. Cope, the president. Grapes—Black Hamburg, Victoria, Chasselas de Fontainebleau, White Tokay, Austrian Muscat, White Sweet-water, White Frontignan, and Muscat of Alexandria. Peaches—Early York, Melocoton and another. Nectarines—Elruge. A display of great interest and of much admiration, alike creditable to the proprietor and gardener of Springbrook farm.

By James Bisset, gardener to James Dundas, a large dish of delicious nectarines.

By Fred'k Wolf, gardener to Mrs. Gambes, Montgomery county. Grapes—three large and fine bunches of the Malaga.

By Robert Lovelace, gardener to Mr. Warne, Frankford. Strawberries—Hovey's Seedling.

By Anthony Felten Hovey's Seedling strawberries.

By Mr. Page, Burlington, N. J. Moyamensing—a seedling, brought into notice by the society last year.

By Isaac B. Baxter. Mayduke cherries and strawberries.

By Wm. Hobson. Cushing strawberries and Early Richmond cherries.

By P. Gallagher. Methven Scarlet and Baltimore strawberries.

By Dr. Wm. D. Brinckle. Strawberries—Taylor's Seedling and Necked Pine, of stock from Cincinnati, Seedlings Col. Wilder, Abyssinian Prince, Fanny, No. 286 A, No. 53 B, and No. 311 C.

Vegetables.—By Anthony Felten, an extensive display.

By Ben Daniels, gardener at Springbrook farm, a fine display.

By Patrick Gallagher, gardener to Miss Gratz, a handsome display.

By Maurice Finn, gardener to Jno. Lambert, a small display.

THOS. P. JAMES,

Recording Secretary.



Horticulturist

and JOURNAL

JOURNAL OF RURAL ART AND RURAL TASTE.

VOL. V.

AUGUST, 1850.

No. 2.

To sit under our own vine and fig tree, with no one to make us afraid, is the most ancient and sacred idea of a life of security, contentment and peace. In a national sense, we think we may begin to lay claim to this species of comfort, so largely prized by our ancestors of the patriarchal ages. The southern states have long boasted their groves and gardens of fig trees; and there is no longer any doubt regarding the fact, that the valley of the Ohio, with its vine-clad hills, will soon afford a resting place for millions of cultivators, who may sit down beneath the shadow of their own vines, with none to make them afraid.

There has been so much "stuff," of all descriptions, made in various parts of the country under the name of domestic wine—ninety-nine hundredths of which is not half so good or so wholesome as poor cider—that most persons whose palates are accustomed to the fine products of France, Spain or Madeira, have, after tasting of the compounds alluded to, concluded that it was either a poor piece of patriotism, or a bad joke,—this trying to swallow American wine.

On the other hand, various enterprising Frenchmen, observing that the climate of a large part of the Union ripened peaches and other fruits better than that of their own

country, naturally concluded that if they brought over the right kinds of French wine grapes, wine must be produced here as good as that made at home. Yet, though the experiment has been tried again and again by practical vigneron, who know the mysteries of cultivation, and wine merchants who had an abundance of capital at their command, there is no record of one single case of even tolerable success. In no part of the United States is the climate adapted to the vineyard culture of the foreign grape.

So much as this was learned, indeed, twenty years ago. But was the matter to be given up in this manner? Could it be possible that a vast continent, over which from one end to the other, the wild grape grows in such abundance that the Northmen, who were perhaps the first discoverers, gave it the beautiful name of VINLAND, should never be the land of vineyards? There were at least two men who still believed wine-making possible; and who, twenty years or more ago, noticing that the foreign grape proved worthless in this country, had faith in the good qualities of the indigenous stock.

We mean, of course, Major ADLUM, of the District of Columbia, and NICHOLAS LONGWORTH, Esq., of Ohio. Both these gentlemen, after testing the foreign grape, aban-

doned it, and took up the most promising native sorts; and both at last settled upon the *Catawba*, as the only wine grape, yet known, worthy of cultivation in America.

Major ADLUM planted a vineyard, and made some wine, which we tasted. It was of only tolerable quality; but it proved that good wine can be made of native grapes, the growth of our own soil. And though ADLUM was not a thorough cultivator, he published a volume on the culture of native grapes, which roused public attention to the subject. He made the assertion before he died, that in introducing the *Catawba* grape to public attention, he had done more for the benefit of the country than if he had paid off our then existing national debt. And to this sentiment there are many in the western states who are ready now to subscribe heartily.

Mr. LONGWORTH is a man of different stamp. With abundant capital, a great deal of patriotism, and a large love of the culture of the soil, he adds an especial talent for overcoming obstacles, and great pertinacity in carrying his point. What he cannot do himself, he very well knows how to find other persons capable of doing. Hence he pursued quite the opposite system from those who undertook the naturalization of the foreign grape. He advertised for native grapes of any and every sort, planted all and tested all; and at last, he too has come to the conclusion that the *Catawba* is the wine grape of America.

"What sort of wine does the *Catawba* make?" inquires some of our readers, who like nothing but *Madeira* and *Sherry*; "and what do you think will be the moral effect of making an abundance of cheap wine?" asks some ultra temperance friend and reader. We will try to answer both of these questions.

The natural wine which the *Catawba* makes is a genuine hock—a wine so much like the ordinary wines of the *Rhine*, that we could put three of the former bottles among a dozen

of the latter, and it would puzzle the nicest connoisseur to select them by either colour or flavor. In other words, the *Catawba* wine (made as it is on the *Ohio*, without adding either alcohol or sugar,) is a pleasant light hock,—a little stronger than *Rhine* wine, but still far lighter and purer than nineteen-twentieths of the wines that find their way to this country. Its subacid flavor renders it especially grateful, as a summer drink, in so hot a climate as ours; and the wholesomeness of the *Rhine* wine no one will deny.* Indeed, certain maladies, troublesome enough in other lands, are never known in hock countries; and though the taste for hock—like that for tomatoes—is an acquired one, it is none the less natural for that; any more than *walking* is, which, so far as our observation goes, is not one of the things we come into the world with, like seeing and hearing.

As to the temperance view of this matter of wine-making, we think a very little familiarity with the state of the case will settle this point. Indeed, we are inclined to adopt the views of Dr. FLAGG, of Cincinnati. "The temperance cause is rapidly preparing public sentiment for the introduction of pure American wine. So long as public taste remains vitiated by the use of malt and alcoholic drinks, it will be impossible to introduce light pleasant wine, except to a very limited extent; but just in proportion as strong drinks are abandoned, a more wholesome one will be substituted. Instead of paying millions to foreigners for deleterious drinks, let us produce from our own hillsides a wholesome beverage, that will be within reach of us all—the poor as well as the rich."

Very few of the friends of temperance are perhaps aware of two facts. First, that *pure* light wines, such as the *Catawba* of this country, and the *Hock* and *Clarets* of Europe,

* MR. LONGWORTH is now making large quantities of sparkling *Catawba* wine, of excellent quality—perhaps more nearly resembling sparkling hock than Champagne.

contain so little alcohol (only 7 or 8 per ct.,) that they are not intoxicating unless drank in a most inordinate manner, to which, from the quantity required, there is no temptation. On the other hand, they exhilarate the spirits, and act in a salutary manner on the respiratory organs. We do not mean to say that men could not live and breathe just as well, if there were no such thing as wine known; but that since the time of Noah, men will not be contented with merely living and breathing; and it is therefore better to provide them with proper and wholesome food and drink, than to put improper aliments within their reach.

Second, that it is universally admitted that in all countries where light wines so abound that the peasant or working-man may have his pint of light wine per day, drunkenness is a thing unknown. On the other hand, in all countries which do not produce claret, hock, or some other wholesome light wine, ardent spirits are used, and drunkenness is the invariable result. As there is no nation in the world where only cold water is drank, (unless opium is used,) and since large bodies of men will live in cities, instead of forests and pastures, there is not likely to be such a nation, let us choose whether it is better to have national temperance with light wines, or national intemperance with ardent spirits. The question resolves itself into that narrow compass, at last.

As we think there are few who will hesitate which horn of the dilemma to choose, (especially, as an Irishman would say, "where one is no horn at all,") it is, we think, worth while to glance for a moment at the state of the vine culture in the valley of the Ohio.

We have before us a very interesting little pamphlet, full of practical details and suggestions on this subject.* It is understood to be from the pen of R. BUCHANAN, Esq.,

president of the Cincinnati Horticultural Society. It deals more with facts, actual experience, and observation, and less with speculation, supposition, and belief, than anything on this topic that has yet appeared in the United States. In other words, a man may take it, and plant a vineyard, and raise grapes with success. He may even make good wine; but no book can wholly teach this latter art, which must come by the use of one's eyes and hands in the business itself.

Among other interesting facts, which we glean from this pamphlet, are the following: The number of acres in vineyard culture, within twenty miles of Cincinnati, is *seven hundred and forty-three*. Those belong to 264 proprietors and tenants. Mr. LONGWORTH owns 122 acres, cultivated by 27 tenants.

The average product per acre in 1848 (a good season,) was 300 gallons to the acre. In 1849 (the worst year ever known,) it was 100 gallons. One vineyard of two acres, (that of Mr. RENTZ,) has yielded 1300 gallons in a season. New Catawba wine, *at the press*, brings 75 cents a gallon. When ready for sale, it readily commands about \$1.25 per gallon.

The best vineyard soil on the Ohio, as in the old world, is one abounding with *lime*. A "dry calcareous loam" is the favorite soil near Cincinnati. This is well drained and trenched, two or three feet deep, before planting the vines; trenching being considered indispensable, and being an important part of the expense. The vines, one year old, may be had for \$6 per 100, and are usually planted three by six feet apart—about 2,420 vines to the acre. They are trained to single poles or stakes, in the simple mode common in most wine countries; and the product of the Catawba per acre is considerably more than that of the wine grape in France.

Mr. BUCHANAN gives us a number of cal-

* *A Treatise on Grape Culture in Vineyards in the vicinity of Cincinnati*: By a member of the Cincinnati Hort. Society. Sold by I. F. De Silver, Main-st., Cincinnati.

culations of the cost and profit of a vineyard on the Ohio, per acre. The following is the result of his various inquiries :

Cost of a vineyard per acre, say \$250, interest per annum,.....	\$15 00
Cost of attending, per acre,.....	60 00
Cost of making the wine,.....	25 00
	<hr/>
	\$100 00
Probable average annual product—200 gallons, at \$1,.....	200 00
	<hr/>
Supposed profit per acre,.....	\$100 00

This, which we think a reasonable estimate, is certainly an encouraging one for the cultivator of the vine in the United States. The soil and climate for the Catawba grape are, however, not to be found over a large range of our country. It is only in the more favored portions of the middle and western states that this grape ripens well enough to produce good wine. But the district extends over a breadth of a thousand miles, and contains fertile land enough to supply all our people with pure and wholesome wine.

The grape is by no means free from enemies. Its most fatal one in this country, is the *rot*—a disease which attacks the fruit; and though very little known here, it is a very serious mischief on the Ohio. As yet, it baffles all inquiries; but a careful perusal of this pamphlet, joined to our own observations, leads us to believe that it is owing to rapid alternations of heat and cold, moisture and drouth, on the surface of the soil.

Mr. LONGWORTH states that the only vine-

yards about him, free from rot in certain unfavorable seasons, were those of two or three lazy tenants, who left the surface uncultivated, so that it became covered with a thick coat of grass and weeds. Not a rotten berry was to be seen; while in his own and other vineyards, the surface of which was neatly dressed, the disease was very prevalent.

The remedy, if we understand the force of this circumstance aright, is plainly *mulching*. Instead of cultivating the soil all the season, cover it early in the spring with straw, litter, sea-weed, tan, or whatever else may be had. The cost of the *mulch* will not be more, in most cases, than the labor of dressing the land; and it will effectually prevent all necessity for the latter. At any rate, it is well worth trial, and two or three facts within our notice lead us to believe that it will prevent the rot effectually.

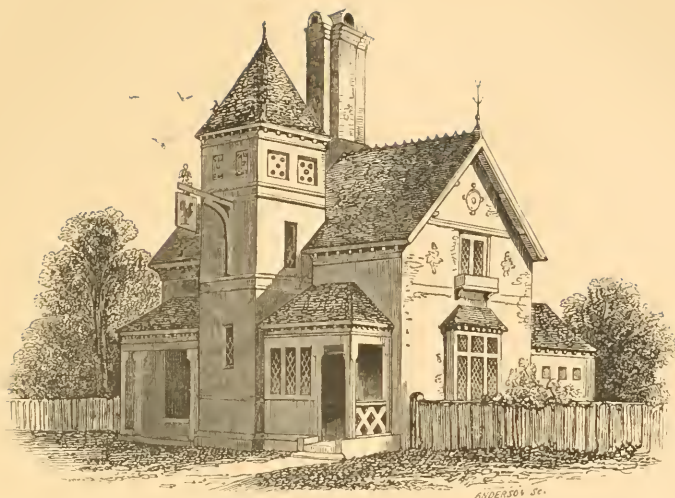
Taking it for granted, that the Catawba will give us good hock, and sparkling wine, another native variety that will produce excellent table claret is a desideratum. The Schuylkill Museadel, or Cape Grape, is said to do this on the Ohio. We have not had an opportunity of tasting the wine made from this grape; but so many cultivators are now experimenting with seedlings, that we cannot doubt a variety capable of giving us excellent red wine will soon be brought to notice.

DESIGN FOR A SMALL INN.

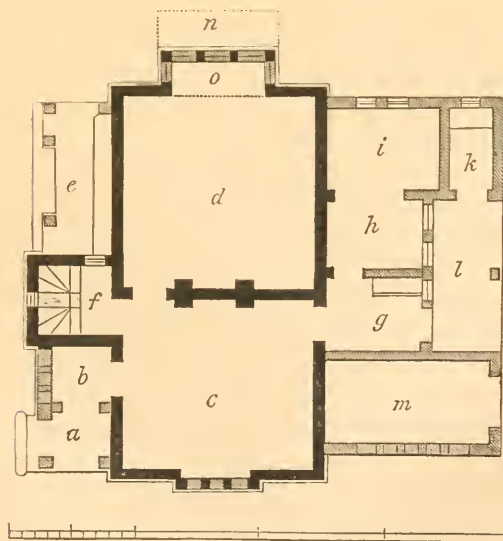
BY J. W. WILD, ESQ.

THE picturesque cottage, shown in the FRONTSPIECE of this number, was originally designed for London's Architectural Supplement, by Mr. WILD, an English architect. We copy it from that work (which is in very few hands in this country,) as affording a good hint for a picturesque cottage or gate-lodge, in a wooded or sylvan situation.

The plan shows a porch, *a*; lobby, *b*; kitchen or living room, *c*; parlor, *d*, with a bay, *o*, which may be separated in the winter season by a screen of glass, so as to form a small green-house; an open *veranda*, *e*, with seats; a staircase, *f*, over which there is a pigeon-house, and from which the sign is projected; *g*, is the back kitchen; *h*, the pan-



DESIGN FOR A SMALL INN.



PRINCIPAL FLOOR.

try; *i*, the dairy; *k*, water closet; *l*, open porch; *m*, cow-house.

The estimated cost of this building in England is £232 7s. 3d.; and it may be built in many parts of this country for less than \$1000. The tower contributes much to its picturesqueness; and in certain localities, and for some purposes, it would be highly ap-

propriate and picturesque; while in others it would have too much pretension. In cases where the latter objection would apply, by omitting the upper story of the tower, and finishing it like a gable in the main roof, a less picturesque but still pretty cottage would be the result.

J. W. WILD.

DESCRIPTION OF A HYGROMETER,

FOR REGULATING THE MOISTURE OF THE AIR IN CLOSED APARTMENTS.

MR. DOWNING—I send you herewith a wood cut of the hygrometer, about which you inquire, together with a description of it, originally furnished for the Journal of the Franklin Institute.

In a letter of Franklin, addressed to Edward Nairne, of London, a plan for a hygrometer is mentioned, which was afterwards made by Mr. Nairne, and is described in vol. iv, page 449, of Sparks' edition of Franklin's Works.

In this instrument the motive power is derived from a slip of wood, one end of which is fixed, and the other end attached to the short arm of a bent lever, which

is moved by the expansion and contraction of the wood, the extent of the motion being shown upon a graduated arc at the extremity of the lever.

Having found that a hygrometer resembling this, which I have used for several years past, is very readily affected by changes of moisture, I have made one upon a similar plan, and attached to it an apparatus which will produce any required degree of moisture

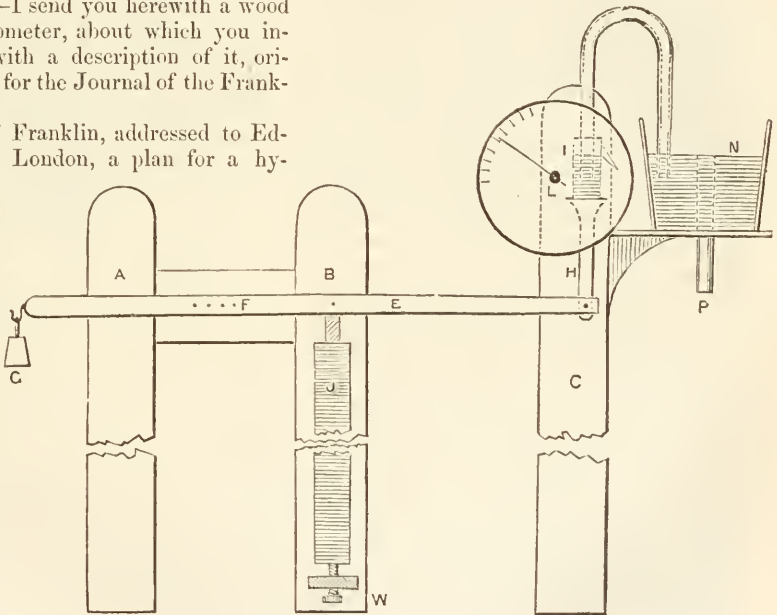


Fig. 11.—Batchelder's Hygrometer.

in the apartment in which it is placed. An instrument of this kind will not indicate the dew-point with accuracy, neither can two instruments be made to give precisely the same expansion or contraction when exposed to the action of the same degree of moisture; it is, therefore, of no value for observations that are to be recorded and compared with each other, but each instrument, when used in conservatories, or in any place where the temperature

is nearly uniform, will, if the air becomes too dry, restore it to that degree of moisture that has been previously determined upon as the most desirable.

In the annexed figure, A, B, and C, represent standards of wood which support the apparatus; E is a lever having its fulcrum at F. Upon the top of the perpendicular rod H, which rests upon the horizontal lever, a light open-mouthed vial or cup, I, is placed, having an orifice and lip at its side near the top; this contains about a gill of water, its weight and the weight of the long arm of the lever being balanced by the counterpoise G. J is a slip of bass wood, (*Tilia Americana*), four feet in length, two inches in breadth, and one-eighth of an inch thick, the grain running in the direction of its breadth, or horizontally. This wood should be perfectly sound, of straight grain, but not of very close texture, its exterior being made rough by the use of coarse glass paper, in order to expose a larger surface to the air. At the bottom of the standard B, is a nut and adjusting screw, W, to which the slip of bass wood is attached; a plate of brass is screwed to the top of the wood, and is fastened by a pin to the lever E; from this lever a silk thread is carried around the pulley L, in a spiral groove; the axis of this pulley passes a dial plate and carries an index. At N is a vessel of water, having a proper supply pipe leading to it, the water being retained at a uniform level by the waste pipe P, and connected with the water in the small vessel I, by a syphon. The respective length of the legs of the syphon is immaterial, as the flow of the water depends upon the relative level of the surface of the water in the reservoir, and that in the cup; both legs being immersed, the syphon remains constantly filled with water.

To put the instrument in operation, let the apartment be kept at its mean temperature, and at the degree of moisture required, both of the vessels and the syphon being filled with water. After the instrument has been exposed to this atmosphere a short time, turn the screw at W until the orifice in the vessel I is level with the top of the waste pipe P; then turn the pulley L, and set the index at

zero. The instrument being thus adjusted, if the air becomes more dry the slip of wood contracts, the small cup descends, and water flows into it from the stationary reservoir; the water then escapes from the orifice in the side of the cup, falls into a funnel, and thence into a pipe, which, when the instrument is used in green-houses, conveys the water to evaporating pans placed upon the flues, or to a horizontal pipe, having openings at its upper surface at suitable intervals, from which the water falls at any point desired. As the water thus discharged evaporates, the surrounding air is moistened, the wood is expanded, and when it attains its original length, the orifice in the cup is again raised to the level of the surface of the water in the reservoir, and the flow of the water ceases. If, from any cause, the air should become too moist, the only effect produced is, that the cup continues to rise, and a small quantity of water flows back to the large reservoir.

If, by accident, the air should become very dry, the further contraction of the wood causes a larger quantity of water to issue from the cup than is due to this change in the hygrometric state of the air, the discharge being *accelerated* as the difference of level between the two surfaces increases; thus the return of the air towards its normal condition is the most rapid at the time when it is of the most importance that the moisture should be restored. The same degree of moisture may be made to discharge a greater or less quantity of water, by moving the fulcrum of the horizontal lever to the right or to the left.

The opening and closing of valves and stop-cocks is attended with much friction, but in this instrument, it will be observed that the water flows through the syphon with a very small amount of friction, and that little power is required to depress the cup. This plan may, therefore, be used to advantage in many instruments in which the motive power is small, the weight of the water discharged being applied to produce more extended or more forcible movements.

JOHN M. BACHELDER.

Boston, May 22, 1850.

ON RAISING PLANTS FROM CUTTINGS.*

BY M. NEUMANN, PARIS

No. XI. CUTTINGS BY PIECES OF THE TRUNK.—This mode of multiplication, which I first published seven years ago, is now in use in all countries. I employed, for the first time, *Cycas circinalis*, which was then rare in



Fig. 11.—Section of the trunk of *Cycas circinalis*.

green-houses. For this purpose I cut some slips, or slices, $1\frac{1}{2}$ inches or 2 inches thick; I then left them freely exposed to heat for four or five days, to dry them; then I planted them in pots of suitable size, which I placed covered with a bell-glass, upon a hot-bed. These slices are not long before they emit roots, and show shoots between the scales; (fig. 11.) When all these were formed, I detached them, in order to make cuttings, which developed themselves as well as the plant which served to make the cuttings. I did not then doubt that, in dividing these slices of *Cycas* like the roots of *Paulownia*, I should obtain the same results; I then cut them into several pieces (*d c*, fig. 11.) each of which gave me a new plant. The head of the *Cycas* (*a*), which I had cut to obtain the slices, was planted after having been exposed to the air of the stove for three weeks; I did not expect any result from it, because it was so young; but, in the following year, I per-

ceived that this head had taken root, and it soon produced shoots which showed themselves in the same manner as the parts before cut. It is generally one year before these cuttings take root. Perhaps we shall be able some day to obtain plants of *Cycas* by striking the scales with which this plant is provided.

PEG CUTTINGS.—The easiest and simplest of all cuttings is known under the name of peg cutting; it is that generally used for multiplying trees which grow near water, such as Osiers, Poplars, &c. For this purpose we employ branches of a certain strength, and we cut the lower end to a point, as in fig. 12; we then force it into a hole in the ground previously made by a stake, or, which is preferable, into a hole larger than the cutting, and which we then fill with earth, pressing it down as soon as the cutting is put in its place. Everybody knows that cuttings root more easily in a light soil than in one too compact; it is for this reason that I advise this last method. I ought here to notice, among the Poplars, *P. heterophylla* and *P. argentea*, which take root from cuttings with difficulty. They are, therefore, better grafted on *P. Caroliniana*, to which they have more analogy.



Fig. 12.

CUTTINGS OF THE TRUNK.

—This species of propagation is the same as peg cuttings made with stronger branches; I mention it separately here, in order to call to mind that we may make cuttings of trees of considerable size, (fig. 13.) Anybody may have seen on the borders of rivers, where Willows are cultivated, the stems of such trees sharpened, and forced into the soil to keep together the beds; these Willows root freely, and often live for a long



Fig. 13.

time, although they may have been injured by the violence used in planting them. There is in the possession of M. Jacques, at Neuilly, a specimen of *Sophora japonica* which took root in this manner.

NO. XII. CUTTINGS WITH A HEEL.—

This method, called cutting with a heel, is well known; it consists in carefully raising up a branch (see fig. 14,) in such a manner that the wood which unites it to the principal stem is detached with the cutting; this wood has the advantage of exciting the development of the roots. The branches which are thus cut ought to be two or three years old; the roots come out better from this wood than from one year old shoots. Such cuttings are made the length of three or four eyes, of which two or three are buried, and one is always left above ground.



Fig. 14.—Heel-cutting of *Gustavia augusta*.

CUTTINGS BY BRANCHES.—The evergreens which we cultivate in the open air may be multiplied by cuttings, if we choose the branches of the preceding year at the time when the sap begins to rise. The month of March seems to me the best for the climate of Paris. The *Abies Deodara*, which I introduced into France some years ago, and which resists the severity of our winters so well, may be multiplied perfectly by cuttings of its branches.



Fig. 15.—Cutting of *Columnea Lindeniana*.

The instrument with which the branch intended to be put into the earth is cut, ought to be so sharp that the wound presents no raggedness; it is usually cut rather a little below the petiole than above it; if this operation has been well performed, the base of the petiole ought to remain after the cutting, as is shown in fig. 15; the same branch cut into several portions, following the same plan, forms as many cuttings as there are pieces. The leaves which might hinder the planting of the cutting are cut at one-twentieth or one-sixteenth of an inch from the base of the petiole.

There are certain plants, as the *Clusia*, for

example, whose leaves we do not cut off. Buds are often formed in the axils, which pierce the earth and develop themselves in the air. It has been said, and some persons still say, that such cuttings never form fine trees; this idea seems to me erroneous, and, in defence of what I say, I shall quote the examples of *Araucaria excelsa* and *Cunninghamia*, which, raised from cuttings, cannot be distinguished from plants raised from seeds; *Poplars*, *Abies lanceolata*, &c., are in the same case.

It is not, however, an indifferent matter, whether such or such a branch is taken for striking; there are some trees which, when lateral branches are operated on, only give lateral branches, and never form a head; such are *Araucarias*, *Abies*, *Proteas*, some species of *Leguminous* and other trees; but if we detach the head of these plants to make a cutting, we obtain a plant in every respect similar to that produced from a seed of the same species.

However there are some species of trees whose cuttings made from lateral branches will produce, under the callus, when arrived at a certain strength, a true shoot which will not be long in showing itself, and will one day form a plant having the same appearance as that which a cutting made from the head would have produced. Physiology teaches us that the callus which is formed at the base of a cutting is nothing more than a successive collection of a multitude of small bladders or nipples, which are white when they are formed under the earth, and take their proper green colour as soon as they are exposed to the light: these bladders are easily seen by the naked eye.

When they are sufficiently collected to give birth to a new being, the bud then develops itself, and the tree begins to grow; such is the effect which is remarked in the cuttings of *Abies lanceolata*, *Ginkgo biloba*, and many others.

Fig. 16 gives an idea of this phenome-



Fig. 16.—Cutting of *Abies lanceolata*.

non; *d* is a lateral branch struck from a cutting, *e* is the callus, *c* a branch sprung from an adventitious bud and destined to become a tree which, to be well formed, ought to be produced upon the cellular matter of the callus and not upon the stem of the cutting; this last ought to be cut the moment that the shoot which it has brought to light is a little developed.

Some years ago I was advised to put a lateral branch of *Araucaria excelsa* into the ground; I was told that I should obtain along this branch adventitious buds which would form heads; I tried it, and never obtained a satisfactory result, nor have I ever been able to find at any horticulturists a single fact in defence of the speculation.

CRITIQUE ON THE JUNE HORTICULTURIST.

BY JEFFREYS, NEW-YORK.

YOUR LEADER.—*Our Country Villages.*—All very well, and rightly said—the Massachusetts part, in particular. They *do* understand things better there, as a state, in the way of living clean and comfortable about their houses and grounds, than in any other state of the union. From Pittsfield to Nahant, in its entire length, or from Northfield down the Connecticut valley to Long Meadow, in its full breadth, and through all its river courses, from the Housatonic in the west to the Merrimack in the east, are the loveliest villages that live, and though barren, hard and rugged be the soil of Massachusetts, “it is a land of beauty and of grandeur”—beautiful in its soft, sunny spots of cultivation and embellishments—grand in its mountains, rivers, valleys, capes, and ocean. But your *regular* villages! they are *not* in Massachusetts. In all their beauty throughout the state—I mean the old ones, for they are by far the prettiest—those ancient villages are laid out on the cow-path system of pilgrim times; no parks, but a “green;” a wimpling brook or a babbling river, with broad elms and willows clustered over its silvery bed, to screen it from the fierce glare of the sun; a stretch of luxuriant meadow; a gentle hill or a rocky ledge now and then upon its outskirts; mountains in the distance; in its heart the nearest churches and school houses; and

spreading out upon its winding streets, the sweetest homes, the fairest lawns, the choicest gardens, and the grandest trees in the universe! Witness Stockbridge, Northampton, Lancaster, and a hundred others, to say nothing of the delicious places round about Boston; which, by the way, are losing half their beauty and rurality in the starch and macaroni atmosphere which the city emigration has brought into them. Why, if you want to know the superiority of such winding streets, just recollect back a few years ago, when we were boys, and bring to mind the pleasant old roads crooking out in various ways from Greenwich-street, Broadway, and the Bowery, in this goodly city of Gotham, which threaded out all over the island, between old mossy stone walls, with wild-briar hedges overgrown; ledges of high rock; the occasional market garden, and low porched cottage enclosed; and now and then the hospitable looking, broad-porched old mansion of the Stuyvesants, the Gracies, the Rays, the Schermerhorns, or the Le Roys, with their long avenues of horse chestnuts, and elms, and English cherries, and box, and arbor vitæ. And now where are they? Gone, alas, forever, but that was country—rural; one could smell it, and feel it, as he coursed, or drove, or walked those pleasant lanes and bye-roads. And such, among such lands elsewhere, should

be country residences now. I have known a man to spend a thousand dollars in blasting away a great cluster of rock, and turning off a delicious and chrystal brook from his lawn, where the same rock and the same brook, with ten dollars worth of vines and shrubbery planted about them, were worth, in rural effect, all the frippery put together, which he had built there at an expense of ten thousand. Strange that people going into the country for a summer's stay, can't be content with the country alone, but make themselves and all about them miserable, because in their foolish pride, they *will* take the city and its nonsense along with them! Why, my good friends, the very object of getting into the country at all, is to ruralize—to repose—to keep off the dust, and suffocation, and turmoil, and pestilence of the city—to pick the wild huckleberries and blackberries, and eat them in your bread and milk, and make pies and puddings of them; to feed your ducks and chickens, and enjoy your fruits and gardens; and better than all, to turn the children out into the lawn, or the paddock—to catch the pony and ride bare-back if they choose to, scampering boys and girls together over the pasture! Then let the governess be dismissed for a summer's visit to her own friends. She will be all the fresher and more elastic in spirit for the next winter's campaign with the young daughters, who, in their buoyant romping over the fields, will expand their chests and dilate their lungs—all the stouter for *Mesdames* Waltz-enwack and Polka-lair to exercise their ingenuity upon, in torturing and compressing them into the fashionable wasp dimension when they "come out." And if your summer retreat be in a farming neighborhood, turn the boys for a few weeks into the district school with the farmers' children. Let them play ball, trundle hoops, fly kites, run foot races, pitch quoits. Farmers' boys are usually smart at such play,

and if yours should beat them in the games, 'twould be a trophy in their caps. Let them swim in the river too, fish for dace and chubs in the brook, or bob for eels in the mill-pond. All these will do your boys no harm—even if in wrestling with the other youngsters they tear their jackets, and dirty their faces in their rough play. Ten to one, these same tow-headed farmers' boys will one day sail your ships, be the partners of your sons in business, or mayhap, marry your daughters, and you like them all the better that their wholesome stamina was acquired in the pure air of a country life.

Aye, and put yourselves at once on good terms with your quiet country neighbors. Although they be plain people, they possess kind hearts and many virtues, and will do you many a good turn; and as you treat them, will you, in their estimation, be "the best kind of city folks," or mere "stick-ups." How many pleasant, social afternoon and evening visits do sensible people in their summer sojournings make among their farmer neighbors, who impart, in their own way, quite as much instruction and pleasure as is given in return by those who profess to be better informed! And again, I have known even very good sort of city folks, when *in* the city, wonderfully fretted at the rudeness of their country neighbors, because they would not at first sight submit to their own arrogant pretensions of a higher gentility, and in their intercourse acknowledge a superior *caste* in their new neighbors, which they were utter strangers to, and had, most properly, never been taught to admire; thus making themselves wretched because of a sheer misunderstanding of human nature.

But the age of poetry is gone, and I suppose with the new fashions and the rail-roads, we are hereafter to have, in the new city-villages which are to be built upon them for summer resort, rectangular streets, and fancy hou-

ses stuck up like the "four and twenty fiddlers all in a row," on fifty-foot lots, as you say, and looking for all the world as nice and uniform as a shop-keeper's shelves with their shining wares so spruce and gingerly upon them. Well, I suppose the people like it, and there is no other way but to let them suffer—for enjoy them they cannot; that is altogether out of the question; and as some folks take a great deal of comfort in being miserable, why, let them do as they like. You may talk, my good sir—and I am glad to hear you—as long as you please, but such people don't read you; and if they did, three out of four could not understand what you meant.

Rough Notes from the West.—I hope Dr. KENNICOTT will preach a little good sense into the people on the subject of substituting good fruits for apothecary shops, as articles of diet. No subject will better bear handling.

As to your farmer schools, Dootor, you've got to hammer more tact into our farmers' heads than they have yet shown, either in legislation or election, before you'll work them up to a right understanding of their own interests. The demagogues and politicians have had it all their own way thus far, and so they are like to have it for a long while to come, unless *somebody* wakes up suddenly.

As to the "Bureau," Gen. TAYLOR has shown his proper estimate of the importance of intelligent agriculture, in proposing it, and Mr. EWING his correct appreciation of the true interests of the country in enforcing the measure, to Congress. But who supposes that the present Congress—the most fruitful in abortions yet seen—will do any thing for any interest beyond their own aggrandizement or the gratification of their own selfish objects?—No, answer.

A Letter to Ladies in Town.—

"To thee, my FLOWER, whose breath was given
By milder genii,"—

it may be unembarrassing that I am not a young

man, persuasive and accomplished, instead of a gouty grandfather, merging into the "sear and yellow leaf;" for there would be a brisk chance of a proposal, and, in answer, most likely a refusal, as soon after I could carry my spruce figure into New England, as etiquette would permit. But such contingency past, I can only express my pleasure to find one of the gentler sex—God bless them all!—"coming over to Macedonia to help us." The first music of the song-sparrow in spring, or the rich melody of the summer oriole, is not more welcome—and oh, how sweet *they* are!—than such heart-stirring notes in the Horticulturist. Write again, and often, my charming friend. Your auditory "is legion." And such a field no missionary—I speak it with reverence—this side the Caffree country, has for his gathering.

Coal Cinders for Pear Trees.—"Keep it before the people," as the politicians say. What is continually around us, is the last thing we see, or think of. Now here are not only hundreds but thousands of loads of cinders and ashes dumped daily into the rivers from our goodly city, as well as from most of the great towns all over the country, thrown away or buried, that would feed all the pear trees in cultivation, while thousands of dollars are annually spent to get rid of them, when but a trifle more expense would put them to excellent use. Do keep stirring up these every-day subjects, and show the public that the enriching material which they so expensively seek, is a perpetual nuisance under their feet and noses.

The Good Effects of Mulching.—I am going to tell you a story about mulching, by and by, if I live—provided present prospects don't blast before that time—that will enlighten somebody, and probably no one more than myself. I've tried an experiment in that way the past spring, which will settle the virtues of this doctrine most thoroughly.

Tan-bark for Mulching.—Any thing, Mr. CLEVELAND might as well have added. How many thousand loads of this invaluable material do we see daily rotting in unsightly heaps around the country, that would be worth a fortune if applied about the roots of all sorts of trees, shrubs, and a great many vegetables. To strawberries, tan-bark is the best mulching possible, for it keeps them moist and clean—two important requisites. I hope the the public will appreciate these valuable notes.

I thank Mr. C. for his kind sentiments toward myself; but as I have continued my idle remarks without the hope of applause or the dread of censure, I trust I may survive the peevishness of the discontented.

Design for a Gothic Country House, with an elevation and plan. As it is said to be but a step from the sublime to the ridiculous, so backward it is but a step from the ridiculous to the sensible. The house in *this* number is a good one—substantial, plain, dignified—very much so, in all three qualities.

I have said much about houses—perhaps too much; but as examples are placed before me, the spirit moves, and I must needs go on. And first, a few words in general. Iago said, "Men should be what they seem;" and why not houses? Our national propensity for imitation has led a great many builders not only of houses but of churches and other public structures, to copy the stout presentiment of baronial castles, halls, temples, and rotundas, as they exist in Europe, without the slightest conception of the absence of a corresponding fitness of things or circumstances in our own country to meet such structures. If we have the immediate means to erect them, we cannot transmit the hereditary wealth to perpetuate and maintain them in our posterity; nor, if so, have we the institutions which teach us to venerate and preserve them; nor a substantial public taste to approve them. Yet our vanity

and ostentation urge us on to the tinsel counterfeit of what, in its original, is truly grand and magnificent, to attain the temporary possession of what, among those entitled to judge, must only render its builder and occupant, in such character, contemptible.

The nobility and hereditary aristocracy of Europe, with their immense landed estates, and numerous tenantry, from whose labors they draw an immense annual revenue, may, with great propriety—as they view things—indulge in the luxury of extended mansions, halls, or castles. Indeed, it is proper for them so to do. The soil of the realm is theirs—and they are, either by absolute right or courtesy, its legislators and masters. All the pomp and circumstance which they assume, they can and do maintain, as the same pomp and circumstance—according to the times—has been maintained through many centuries past, by their sires; and they can perpetuate it to their own descendants in like manner that it was perpetuated to themselves. All such is the law of the land. Things are not so here. The millionaire of to-day, two chances to one, is the son of a "nobody" of yesterday—of parents "poor, but honest," and whose only inheritance was their good counsel and their blessing. The wealth which he amasses, by the fortuitous chances of life, may be squandered or lost by his immediate descendants; or, by a remarkable vein of fortune, may be perpetuated with a due quantity of saving ancestral brain, to a generation or two beyond. But the castle building millionaire in America has no capital but his money, on which to figure in his new habitation. True, he may buy a large landed estate; he may squander a hundred thousand dollars, in filling his house with costly pictures, and statuary, and furniture; he may roll in his chariot, and be attended by his out-riders; and in the excess of his affected gentility, may "not dine till next day;" but he must do it

alone ; or if not alone, he must surround himself with sycophants and parasites ; for he can have no sympathy and companionship from the truly worthy among his countrymen on *such* pretense of mere wealth and ostentation alone. They tell a story of Davy Crockett, who represented a mountain district of Tennessee in Congress, during the Presidency of Gen. Jackson, that when he had returned, after the first session, to his constituents, at a log rolling, where Davy was present, a large number of his friends had assembled, who were curious to know something of life in Washington. Among other things, said Davy, "the common work-folks get their dinner about noon, as we do ; the store-keepers eat about one or two o'clock ; Congressmen and office-holders dine at three to four ; the cabinet and foreign ministers dine at different hours—some at five, six or seven o'clock, as may be." "All very well," remarked his constituents, "but we want to know when OLD HICKORY gets his dinner." "Oh ! that is altogether another thing," said Davy ; "GENERAL JACKSON don't dine till next day !" The race of such a man is short. "Out, brief candle," is his history, so far as the "establishment" is concerned, and there is an end of his consequence.

It therefore befits an American citizen to build such a house as he can, if necessary, dispose of without great sacrifice, or that shall not distress his family after him to maintain it. The old adage, that "fools build palaces and wise men live in them," is as true now as when first uttered, and no where has the proverb been so repeatedly verified as in the neighborhood of our large American towns. The grand old homes of the English barons and squires were what they purported to be. There was "donjon keep and turret wall," as well as "moated court, and bower, and hall," a fitness of things to time, and place, and life, in the ruder times we so daintily affect to imitate in the building, altogether out of place

and keeping with any thing which we have in the present day. The massive and imposing style of country residences of the olden time, is now absurdly mocked in our country in all sorts of ways. The stately old castle of unhammered stone, grey in weather-stained age, is counterfeited in its entire complexion, in modern brick, stucco, and paint ; with inside furniture and trimmings to match. The substantial, hard-burnt, russet bricks of the olden time, are here imitated in wood, lath, and plaster ; which, after three, four, or five years acquaintance with the weather, becomes as ragged and battered with the frosts and rains upon its sides as a sheep afflicted with the scab ; and so on to the end of the chapter—a tawdry, untutored affectation of what one cannot reach, and what, if he could, would only make him more ridiculous.

The *plan* of the house in your frontispiece, is, in the main, a very good one, and may be made entirely so by trifling alteration. The entrance porch, however, is not a sufficiently prominent feature in the design—that always should stand out a chief feature in a country house—as a mark of welcome, of hospitality. It is, besides, too far from the centre of the elevation ; it would appear better at the room A, and in such arrangement better accommodate the interior passage from the dining hall to the parlor—which, by the way, is not lighted at all—a great defect—unless it be from above. A passage should also be made from the inner passage or hall to the kitchen or servants' room, that the front door bell or knocker may be answered without going through the dining hall—a serious interruption when the family are at meals. There is one grand feature in this house that I admire—the huge outer chimney towering up the gable end from the dining hall. What a grand wide place for a blazing wood fire, at thanksgiving, or christmas, or wedding time, or any other social time, with a back-log and

fore-stick of good hickory or maple wood, driving, in its glowing heat, your guests and family into a wide circle round the room, and lighting it up with such a cheerful, welcome radiance, as will put modern gas and spermaceti out of countenance—no *smell* about it, but the delicious odor of the sweet exuding sap. Ah, my good sir, it is a very capital house!

But why so large a landed estate, and stone so very plenty, to permit such a house to one who wants it? I see no such great requirements in these particulars. Rough stones are cheap—unhammered they should be; and the house is certainly not a *very* large one—a *good* house, indeed, Mr. Downing. I wish some person would build one like it, with the alterations I have suggested. I would go a good way to see it.

Whitewashing.—The cureculio again! the pestilent rascal! I hope some plan is to be ascertained among them all to stop their ravages. We'll wait a little longer, and see what this last cure will amount to.

Cream Hill Vindicated.—I feared as much. "A pretty free sort of a country this," said Teague, just after landing, "that a jintleman can't say and do what he plazes, without such a patter about his ears, and a threat of the bilboes." One thing we have gained, howev-

er. Cream Hill has produced both poetry and eloquence in its "vindication," and I trust the effort of its vindicator, at a description of its fair proportions, has not "wrenched" him so sadly as a "nothing" else might have done.

I thank your correspondent, however, most heartily, that in vindicating his favorite "hill," he has thus valiantly come up to my aid in illustrating the genus "*Imitatio*," through his signature "*Veritas*"—a name some thousand years or more in date, and applied by odd scores and more of pamphleteers and scribblers every year from the Romans down. No "imitation" in this, my good friend—none, whatever.

Thus, Mr. Editor, terminates my random scribblings on your now past volume of the Horticulturist. That I have profited any one, I may well doubt; that I have amused now and then a reader, is possible; and if I have done no harm, I shall be, at least, content. My pen will now take its rest in the quiet repose of my farm, and among the society of my peaceful, rustie neighbors. Whether its labors will again revisit your pages, is a question of little moment, I presume, with yourself or your readers. That, time and tide must determine.

JEFFREYS.

ON THE CULTURE OF GERANIUMS.

BY WM. CHORLTON, STATEN ISLAND.

THE Pelargonium (Geranium,) is not only one of the most splendid, but to the florist one of the most useful genera. So superb is the inflorescence of some, so unsurpassedly rich the scent, and so delicate and handsome the foliage of other kinds, that no collection of plants, however small, can be said to be complete without a due selection of this favorite of

Flora. From the time of our great-grandmothers, it has been a justly popular plant. The old "Horse Shoe" and "Ivy Leaf," were once seen in every cottage window, and were looked upon as a part of the family by all, from the old grandmother, who put on her spectacles to watch its unfolding leaves, to the smallest child, who stood tiptoe on buf-

fet to peep into the window, and though the gorgeous flowers of the new hybridized varieties, have in a great measure driven these and many other old veterans nearly out of the field; yet all are deservedly admired. While too much praise cannot be given to such men as BECK, LYNE, THURTELL, GARTH, GAINES, and a few others, for their perseverance and ardor in bringing this genus to what is acknowledged, in a floricultural view to be perfection, yet it is much to be regretted that so many of the old and originally introduced species should have sunk into oblivion. There were in many of them forms as attractive, and colours equally brilliant as the new sorts; and though the flowers were not so large, the perfume of the leaves of many species amply compensated for this apparent deficiency. The florist, having now arrived at his own standard of perfection in this case, has become satiated, and looks around for fresh novelties upon which to try his skill; yet he cannot relinquish his old favorite, and he is now working at what he pleases to call a fancy class of Pelargoniums, several beautiful varieties of which are now before the public; but I am inclined to think, that in the long run he will again get into the same strain of flowers, for twenty years ago there were many varieties which are not unlike what he is now operating upon; and as form and brilliance are instinctive feelings with him, I see no chance of other results.

The geographical range of the genus may be said to be limited, being confined to the southern hemisphere, and, with a few exceptions, to the Cape of Good Hope, from which place have been brought upwards of two hundred species and sub-species. It belongs to the class Monadelphia, and forms the order Heptandria of the sexual, and to the order Geraniaceæ, of the natural system of botany. By authors, it is reduced into many sub-

divisions, owing to its multiplicity, for convenience in ascertaining distinctions, and referring more readily to individual species. In culture, the more herbaceous and succulent kinds, as *bicolor*, *tricolor*, *carnosum*, &c., require in winter a moderately warm temperature, say 50° by night, and 60° to 70° with sunlight. The more robust sorts, such as *Zonall*, the scarlet, and all the fine show kinds, will do well with less heat, although all of them do not like too much cold, and particularly sharp winds; but abundance of air should be given at every favorable opportunity. The whole family should be placed as near the glass as possible; without which precaution they will grow weak and sappy, and the blooming will be very much deteriorated. Where proper convenience cannot be had, the scarlets (such as Tom Thumb, etc.,) may be taken up about the middle of October, and the roots covered with sandy loam in a cool dry cellar, free from frost, and taken out in early spring before they have pushed much growth. If too soon to plant in the open ground, they must be put into pots in a cool room, where there is light, and seldom watered, only giving barely enough of that element to support life till the weather is sufficiently open, when they may be planted into the flower borders, and will soon recover and make a fine display all the summer. But where there is sufficient room in a greenhouse, if placed near the glass, they will continue to bloom all the winter, and amply repay for the room they occupy.

The culture of this genus is so simple that it is matter of surprise to me that we see so many ill grown and straggling specimens even, in some of our best places. It appears as if there were a determined intention to make the most lovely of Flora's gifts hideous. I am sure there is room for great improvement, and hope we shall see it. A well grown Pelargonium should not have its stems in sight,

but covered by its ample leaves over the pot edge; its height ought not to exceed the breadth, including the top of the bundles of flowers. A plant of this form is always pleasing, and certainly far preferable to the naked *scarecrows* we too often see.

The whole tribe may be propagated from cuttings, portions of the root, or seed. The most common method is by *cuttings or slips*, which should be performed as follows: When the plants have done flowering, cut them down so as to leave only three or four eyes of the present season's growth, and select for the cuttings any portions which are hard and woody. These may be cut into lengths of four joints each,—reserving the three upper leaves, but cutting away the lower ones. Then smooth off the lower part of the stem to just below the lower joint. Any shoots that have not flowered, and retain their crown of leaves, may also be cut in the same way and not topped. Choose as cool a place as possible, and shaded from the sun's rays, put into a frame placed there a few inches of sand or sandy loam, make it moderately firm, and insert the cuttings four inches apart, being careful not to put them deeper than the lower joint, or they will be subject to damp off. Give a moderate watering to settle the earth close about them, and leave the frame open till the leaves are dry, when put on the glass, and be careful to give air in close damp weather, particularly at night. When it is not requisite to propagate every portion of any variety, it is better to throw away the "cutting-down" branches, and wait till the plants have grown four or five joints. By this time the weather will be cooler; besides, the slips will be in a much better state for striking. In this case, thin out the superfluous shoots, place them in a frame as above, or in the hot-house, either singly, into three, or four, or five, into five-inch pots. In about three weeks, they will be sufficiently rooted

when they may be planted out singly into four-inch pots if robust growers, but weak growers into smaller ones.

PROPAGATION BY ROOTS may be performed by cutting the roots into pieces, from half an inch to three inches long, and planting them about an inch apart into pots or boxes, placing them in an oblique position, leaving that end cut from nearest to the stock level with the top of the soil, or very little below it. Put them in a gentle hot-bed, when they will soon begin to grow. The process is best performed early in the season, immediately before the plants begin to grow, as the roots then contain most organizable matter, and success is more certain. If performed through the summer months, the hot-bed may be dispensed with. This plan is most useful in propagating the more succulent and tender species. As some of them are rather impatient of the knife, and the cutting apt to rot, it is also serviceable in the other kinds when speedy increase is the object; but cuttings of the latter make better plants.

PROPAGATION FROM SEED.—This method is practiced for the production of new varieties, and also to perpetuate the more tender and delicate species. In the former case, it is time thrown away unless due care is taken in impregnating the parents, which should be allowed to bloom in an apartment where no other of the same family is located, but the two plants between which the cross is desirable. Air should be freely given, or the embryo seeds will not swell or come to perfection. They may be sown as soon as ripe. When the first rough leaf is expanded, they may be potted off singly into three-inch pots; place them in the shade for a few days, and keep them in the house till they get strong enough to bear the open air. Remove into larger pots as occasion requires. They will flower the following season, when all that are worthless may be thrown out.

To cultivate the Pelargonium well in pots, a moderately rich soil is required. Take for the free growing kinds the top three inches, (grass included,) of a free loam pasture, mixed up with one-third well rotted horse or cow manure, and one-sixth rotted leaves, which have lain together twelve months. *Do not riddle or sift it*, but break the larger lumps with the back of the spade. When potting, after putting in the bottom of the pots an inch or two of crocks, lay some of the decayed turfy and lumpy parts, and fill up with the finer portion; by so doing, the superfluous water can drain away and prevent the soil from becoming *sodden*. For the weak and tender growing species, use equal portions of peat, leaf mould, fresh loam and sand. When the plants have done flowering, cut them down as above mentioned, place them in a shady place in the open air, and turn the pots on their sides for two or three days, only allowing sufficient moisture to sustain life. This will prevent bleeding, which sometimes takes place, and the escaping sap from running down the branches, which rots them. When they have grown an inch or two long, they may be turned out of the pots, and the old soil shaken from the roots, and all decayed parts cut away. Shorten in the healthy roots a little, and re-pot in the same sized pot—using the above compost; but if much diseased reduce the size of the pot, and use fresh, turfy, free loam, without any manure until the plant again becomes healthy; replace them in the shade for eight or ten days, and place boards or other substitutes under the pots to prevent the ingress of worms; they may afterwards be placed in an open situation till about the middle of October, when they are to be removed into larger pots, which will serve for blooming in. If fine and abundant bloom is an object, never pot a Pelargonium in spring; the plant is thereby thrown into an undue luxuriant state, and the

flowers small and few. I again repeat, avoid sharp winds, but admit air freely at every favorable opportunity; be careful of drip from the roof, and do not water overhead. Care in these points will help away the spot, which sometimes commits such ravages in this tribe. About the middle of February, examine all over, and thin out any superfluous or weak shoots, leaving four or five of the strongest. Provide a quantity of small stakes, and arrange them equidistant, according to the number of branches round the inner rim of the pot, slanting outwards; tie the shoots down, one to each stake; be careful that they do not break off at the base, as this is easily done. It is well to run the ties through to the opposite branch before bringing down, which will prevent the base of both opening too wide, when the head may be brought down as low as required without danger. Top the end of each, which will cause them to throw off side shoots and render the plants bushy. Nothing further is required but occasionally fumigating with tobacco when the green fly (*Aphis*) appears—careful watering, and tying the branches as growth proceeds. There is no occasion for a display of sticks, merely sufficient to prevent the plants from breaking down. When spring growth commences, occasionally (say once a week,) give a little weak solution of guano, (about one pound to twenty gallons water,) or liquid drainings from a dunghill. Where both are at hand, it is better to use each alternately. *Always use these liquid manures in a clear state*; for if muddy, they clog up the soil and prevent the air from percolating, thereby rendering the whole mass “sodden and sour.” To ensure success, the plants must be kept near to the glass, have air abundantly supplied, and, when growing freely, they must never be allowed to droop for want of water. Without care in the latter case, the leaves will turn yellow, and the whole plant will present a

withered appearance. Remember that plants, and *particularly the Pelargonium*, are "tell tales" in this respect, and are sure to expose negligence. In this climate, with right management, these plants grow very vigorously, and are correspondingly succulent; and if the syringe is used too freely, "spot" and rot is the consequence. If the house is dry, and heated by brick flues, it is much better to damp the side walls and floor so as to produce a genial atmosphere. As far as my experience goes, I would say never use the syringe in this case. Although it is so essentially requisite for the *Pelargonium* when growing freely in England, observation teaches me differently here. When the plants begin to open their blooms, the under side of the glass should be coated over with a mixture of whiting and glue, which will readily wash off when required. This is better than canvass blinds, as they produce too much shade, and make the plants grow weak, and the blooms small and deficient in colour.

I cannot too much deprecate the common practice of huddling these plants altogether in a corner during the winter and spring months in small pots, and when the weather opens, turning such scrubby things into the flower borders, *in rich soil*, where they stand like a boy upon stilts, for a while, opening a few meagre flowers; and when the roots find their way out from their former cramped up abode, the tops grow with over-luxuriance, and if there is any bloom at all produced, it is small and scanty. If it is desirable to have them in the flower garden, turn out healthy plants with good roots into *very poor soil*, and mulch the top, and very different results will be obtained; but as most plant houses are thinned out about the time when they begin to flower, I see no reason why they may not be left inside where the flowers will expand in perfection; and what would otherwise be an empty space becomes an or-

namental feature. Of course, this does not apply to the scarlets, or the strong growing, winter flowering roots.

CRITERION OF A PERFECT SHOW PELARGONIUM.—The plant should be of bushy habit, vigorous, but not rampant growth, and disposed to flower freely. The leaves, a glossy dark green, firm in substance, and well supported by the petiole. The flower stems strong, and sufficiently long to elevate the bundles of flowers above the foliage. The bunches should contain from five to nine flowers, of a thick velvety substance, bright and distinct in colour, the outline forming a perfect circle; the petals a little cupped, but not so much as to prevent free expansion, with a clear white bottom,—the two upper ones having a decided blotch of a brilliant maroon colour, showing a clear edge of the ground colour; the outer surface perfectly free from indentation or waviness. The fancy varieties may have the blotch over the whole of the top petals, or likewise in the centre of each of the lower ones, or merely a penciling. The ground colours tolerated in the former class are white, pink or rose, crimson, purple and scarlet; in the latter, brilliance and distinctness of any shade.

The annexed list contains a few of those most worthy of cultivation; and though some of them are not of the newest, they are nevertheless of the best quality. I may here mention that all the newest are not the best, though some of them are perfection itself:

<i>White.</i>	
Alpha. (Walker's.)	Hebe's Lip, (Beck's.)
Alexandrina.	King of Saxony, (Lyne's.)
Camilla. (Wilson's.)	Merry Monarch, (Lyne's.)
Chaplet. (Lyne's.)	Modesty, (Lyne's.)
Enchantress. (Wilson's.)	Sir I. Newton, (Wilson's.)
Imogene. (Lyne's.)	
Pearl. (Drury's.)	<i>Rosy Red or Scarlet.</i>
Queen of Sheba. (Wilson's.)	Alladin, (Lyne's.)
Witch. (Garth's.)	Augusta. (Hoyle's.)
	Comte d'Orsay.
	Duchess of Sutherland,
	(Gaines's.)
<i>Pink or Light Rose.</i>	Duchess of Leicester,
Aerial. (Foster's.)	(Gaines's.)
Amelia. (Hoyle's.)	Duke of Cornwall. (Lyne's.)
Beauty of Clapham, (Saunders's.)	King of Saxony. (Gaines's.)
Constellation. (Garth's.)	Mars. (Garth's.)
Euclid. (Walker's.)	The Cid, (Foster's.)

Crimson.
Ackbar, (Gaines'.)
Ardens, (Foster's.)
British Hero, (Noyes'.)
Gigantie, (Hancock's.)
Mount Etna, (Hoyle s.)
Nybla, (Foster's.)
Mogul, (Gaines'.)
Pompey, (Hoyle's.)
Plato, (Thurtell's.)
Crion.
Rising Sun, (Gaines'.)
Sunrise, (Lyne's.)

Standard of Perfection, (Nichols'.)

Purple.

Agrippina, (Cattleugh's.)
Con-servative, (Garth's.)
Negress, (Garth's.)
Sir R. Peel, (Foster's.)
Sultan, (Garth's.)

Fancy.

Anais, (Foster's.)
Aurora, (Beck's.)
Beauty, (Foster's.)

Beauty of Walthamstow, (Pamplin's.)
Beaufort Chief.
Gipsev, (Foster's.)
John.
Jessie, (Foster's.)
Jewess, (Foster's.)
Lady Flora.

Oddity.
Painted Lady.
Sidonia.
Spleni.
Trafalgar.
Tricolor.
Unique.
Victoria.

I am yours, most respectfully,

WM. CHORLTON,

Gardener to J. C. Green, Esq., Staten Island.

FRUIT TREES FOR THE SOUTH.

BY W. A. WHITFIELD, SHELBY, MISS.

MR. EDITOR:—I hope I shall be pardoned in differing from the opinion of Dr. PHILIPS, of Edwards, respecting the adaptability of northern fruits to every portion of the south. JEFFREYS is right, so far as this region is concerned, and I should be tempted to tender him my thanks, but that I find myself in the condition of the Irishman who discovered the mud-hole himself. I feel confident that Dr. PHILIPS has not learned the result of various attempts to raise fine northern peaches in this vicinity. We have no use for the varieties mentioned in his article on page 493, including his favorite Elmira. Nature has given us an atmosphere in which no foreign peach tree ever yet tried has proved itself profitable. Along the gulf and lake region of Mississippi, within the last eight years, more than 30,000 dollars have been expended in procuring, planting and cultivating peach trees brought from northern states, and from the interior region of Mississippi—many from the immediate vicinity of Dr. PHILIPS himself, in the Vicksburg gardens—including 54 varieties, upon every kind of soil; clay, clay-loam, sand, sandy-loam, flint and ferruginous gravels, alluvial and primitive, new and old, poor and fertile, naturally so and made so by art, limed and unlimed, with the trees pruned and unpruned, cultivated and in grass—and all—all, without one solitary exception, have failed,

utterly failed, to the no small discomfiture of those who had built castles in the air upon the proceeds of fine northern peaches sold in the neighboring market at six dollars per dozen. Thus, sir, the work of seven or eight years—trees mammoth in size, are being continually hewed down, to give place to the more profitable seedling of the country.

The history of all foreign* trees is the same. First year—If the tree has formed fruit buds before its removal, and has sufficient root with a favorable spring, it will mature tolerably well two, three or half a dozen peaches, well flavored and of medium size. Time of blooming, from middle of February till middle of March; makes extraordinary growth.

Second year—Blooms from six weeks to two months later—sets well, but without leaves to protect the fruits from the burning suns of May—it all drops off. I have seen a few hold on for two weeks after the time of ripening at Vicksburg—200 miles north of this—but what was there a fine, luscious peach, four inches in diameter, is here a miserable drivel, from the size of your thumb to an inch in diameter. We ought not to expect fruit here the middle of June, from trees which will not bloom until the first of May.

I believe, however, Mr. Editor, our coun-

* Foreign distinguished from creole.

try is well adapted to the growing of fine peaches. We only want the proper varieties. Where can we get them from? We must raise them from seed. We have the creole peach here—some well flavored and of good color, but Lilliputian in size; with others large enough to please the eye of the giant of Brobdignag, but coarse and ill flavored. I should like very much, to get seeds from several northern orchards. I want choice seeds. I believe in like producing like. From whom can I get? I should like to procure cherry and plum stones, also.

One word about grape vines. I found no

difficulty in grafting them early in the spring. My plan is, to cut off in the winter, and cleft graft; or in very large stocks, I split only the bark of the stock, and sloping my graft, press it in, and secure with a small thread. If it bleeds, wrap all for a short distance with old cotton rags, above and below the wound; apply the wax quite warm, so as to make the whole air tight. One of my finest vines this year, was one from accident left without wax or ties. A second one has a fine bunch of grapes. Yours, very respectfully,

W. A. WHITFIELD.

Shelby, Bay of St. Louis, Miss., June 15, 1850.

NOTES ON CHERRIES.

I. REINE HORTENSE.—A French cherry, of considerable reputation, lately introduced into this country. It has fruited here this year, and is quite a distinct variety. It belongs to the Duke class of cherries, but ripens about the height of the cherry season. The flavor is slightly sub-acid, like the May Duke. This variety is remarkable for its long and slender stalk, (measuring a little more than $2\frac{1}{2}$ inches in length,) and the *oval* shape of the fruit. The skin is pale red and semi-transparent—the suture distinctly marked by a dark line, without any depression; the flesh tender, juicy, and of agreeable flavor; and the stone (unless the fruit is very ripe) adheres to the stalk. The pit is also of a long-oval figure. This variety will, we think, be more valuable at the west, from its hardiness, joined to other good qualities, than here, where all the other sorts flourish so well.

II. ROBERTS' RED HEART.—In our work on Fruits, we have not done justice to this cherry, which originated in Salem, Mass. It is remarkable for productiveness, for good flavor, and for uniformly bearing a good crop.

The following is an accurate description of the fruit:

A heart cherry: fruit of medium size, and roundish heart shape; skin of a pale amber ground, but nearly overspread with pale red, mottled with deeper red, and with some pale amber specks. Suture quite distinct. Flesh white, juicy, sweet, and well flavored. Stalk long and slender, set in a depression of moderate depth. A very prolific bearer. Ripens last of June.



Fig. 17.—*Roberts' Red Heart.*

III. CHAMPAGNE.—A new variety, raised from seed by Mr. C. DOWNING, of Newburgh. It is a very distinct variety; and after waiting four years to satisfy ourselves of the constancy of its good qualities, we do not hesitate to say that it will prove one of the most valuable standard cherries. It is neither very large nor strikingly handsome; but it has the great

merits of being very hardy, a great and regular bearer, and of withstanding all the vicissitudes of rotting and blight, which destroy many fine cherries about the time of ripening. In flavor, the Champagne is peculiar,—neither quite sweet or sour, but that lively mingling of the two which suggested its name. It should be remarked, however, that the fruit is not ripe when it first appears so; but should be allowed to hang on the tree, (as it will without rotting,) until perfectly matured, when it is very sprightly and excellent; and is preferred by many who have tasted it to all other cherries.

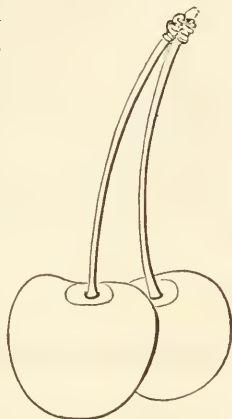


Fig. 18.—*Champagne Cherry.*

The Champagne cherry has the excellent habits, as regards health and productiveness, of Downer's Red; one of the best of cherries for general culture in the United States—probably because it originated in this country. In other words, while a person may have a tree of either Champagne or Downer's cher-

ries, and be certain of a large crop of valuable fruit every season, he may not gather 50 cherries from a tree of many of the Heart or Bigarreau cherries per annum for many years,—either by reason of the frosts in spring, or damp weather at the time of ripening.

Fruit of medium size, roundish heart-shape, but always slightly angular or one-sided. Colour lively brick red, inclining to pink—a little paler on the shaded side. Stalk of moderate length and size, inserted in a rather flat, shallow depression. Flesh amber coloured, of a lively rich flavor—a mingling of sugar and acid—something between Downer's Late and a Duke cherry. A most abundant bearer, and ripens very uniformly, maturing about the 20th of June, and hanging a long while on the tree.

IV. DOWNING'S RED CHEEK.—This cherry, also raised in the establishment of our brother, some years ago, and described in our work on Fruits, proves to be one of the most beautiful and delicious of its class. It is far handsomer as well as more tender and sweet than the Bigarreau or Graffion, which it somewhat resembles; and it will, we think, supplant that variety, when its merits are more generally known.

A DESCRIPTION OF CRIST'S MOLE TRAP.

BY J. B., NAZARETH, PA.

THIS newly invented trap consists of a frame, composed of two uprights, *a a*, about 22 inches high, joined by a top board, *b*—the whole fastened on a foot or base *c c c*. *d* is a heavy piece of scantling or block, which by means of grooves is guided along the uprights up and down. In the lower part of the block are inserted a number of sharp steel pins, about seven inches long in the clear. In the part *C*, of the foot-board, is attached a small

piece of thin board in the manner of a pedal of a piano forte, which, when the trap is set, crosses the passage of the mole. *f* is a wooden latch, suspended by a wire from the cross piece of the frame, and terminating with a wire hook, *g*, at the lower end, somewhat flattened. In the upper part of the latch is cut a notch or shoulder, (*i*), as a rest for the pin block when the trap is set.

Set the trap lengthwise over the passage

draw the block up and fasten it by the wire hook, *k*, to prevent accident to the trapper ;

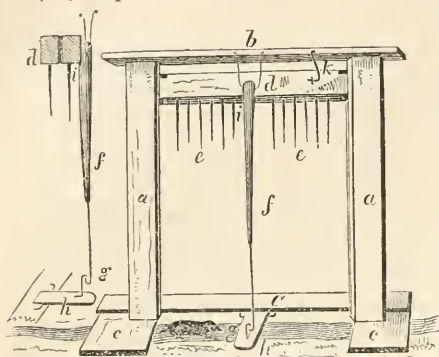


Fig. 19.—Crist's Mole Trap.

place the apparatus over the passage of the mole in such a manner that when the block

falls it will come exactly in the middle of the passage. The ground under the trap in the passage should be taken out, and the bottom levelled, and the sides padded and made hard. The ground taken out should be freed from obstructions, and placed again loose in the passage; but before this is done, the block should be tried if it operates well, and falls right in the passage. Then hang the hook of the latch into a similar hook, projecting upwards from the pedal, so that they may separate upon the slightest touch, by the lifting of the ground on either side by the mole, which in an instant brings down the block and pierces the animal through. J. B.

Nazareth, Pa., June 21, 1850.

THE CALCEOLARIA—ITS VARIETIES AND CULTURE.

BY GEORGE GLENNY.*

[As this exceedingly pretty and unique genus is just beginning to attract general attention in the United States, we give the following article, from the best authority in England, regarding its culture. To those who cannot get plants, we may remark that numberless varieties of Calceolarias may be raised from a single paper of the seeds, now to be had of the principal seedsmen; and there are few more beautiful ornaments to the greenhouse, from April to mid-summer, than the many varieties so obtained. We have had a number of beautiful specimens sent us in April by that distinguished amateur, Mr. BECAR of Brooklyn, N. Y., which have been in bloom for two months or more. ED.]

Some species of the Calceolaria have been cultivated for years in the English gardens, but their elevation to the dignity of a florist's flower is of comparatively recent date. Messrs. Young and Penny have the doubtful credit of making the first move in hybridizing some

of opposite characters; and Mr. Groom made early progress in collecting and selling some of the most remarkable. It is most likely that the work of hybridizing, as it is called,



Fig. 20.—The Calceolaria.

was going on simultaneously in several places, for there were many very singular, and, looking as we always do at the habit of plants, we may say beautiful varieties, offered about the same period, retaining all the shrubby properties, and possessing many brilliant colours.

* From the London Horticultural Magazine.

Perhaps the worst thing that ever occurred in the progress of this plant towards perfection, was the awarding of prizes to herbaceous varieties, as well as shrubby kinds; for it induced people to grow both, and led to a degeneration of both. We have always maintained that the shrubby ones only deserve the distinction of florists' flowers; and it is now difficult to find, even among those honored with prizes, anything like a good habit of plant. The herbaceous varieties give us the largest flowers; and the captivation of size with people who do not study all the properties of plants, led too many to encourage the herbaceous kinds for that property only. Mr. Green, gardener to Sir Edmund Antrobus, was the first and most successful exhibitor of this elegant subject; and the enormous flowers on some of his herbaceous varieties, completely riveted the attention of those whose taste, or want of taste, induced them to value flowers by measure. Mr. Green, so far as our observations went, was as completely in advance with calceolarias, as Mr. Thompson of Iver was with pansies; and a spirit of emulation led others to buy his best sorts, and set to work with seedlings themselves. It is well known in the floricultural world, that our standard of excellence is a perfectly round flower, on a completely shrubby plant; and the novelties are now principally estimated by that standard, though there is much to do before it can be obtained, even should it ever be accomplished. Still, as herbaceous varieties, and the plants partaking of that habit, afford the largest blooms, it is difficult to make many judges pay sufficient attention to the superior merit of shrubby plants. The colours and the markings of the calceolaria are becoming exceedingly numerous; and, within the last two years, they have been diverted from their general characteristic in an extraordinary manner, and from speckles and blotches of all forms and sizes, they have produced blossoms with stripes like a carnation, ramifying from the hollow which is at the top, like rays from a centre, to the outer edge. The chief blemishes of these have been a dulness and indefiniteness in their colours and stripes. Nevertheless, there is no doubt, like all other subjects taken up in earnest, they will be improved; they have, too, the prevailing fault of deep notches in the outline. The herbaceous kinds are what

florists technically call "miffy," a term denoting easily killed or damaged by mismanagement. The shrubby ones are more hardy and easily managed. We succeeded well for some years by the following treatment:

SOIL.—The compost we used was clean hazel loam, which, when ordinarily damp, but not wet, we could squeeze into a mass, and lay it down on the potting table without breaking, but which a pressure of the finger would crumble again readily. To two parts of this, we put one of leaf mould, one of mould formed by a rotten melon bed of stable dung, and one of Wimbledon peat—this being merely lumps of half decomposed wiry fibre and sandy earth, was rubbed through a coarse sieve, such as would let horse beans through. The loam, and dung, and leaf mould were sifted through the same sieve, and the whole well amalgamated, and often turned for some time. It should be mentioned, perhaps, that all these should be measured after they have been passed through the sieve, for one of them may have, and the peat especially, a good deal left behind, which would, of course, considerably affect the proportions. This soil is not too retentive of moisture; and then requires that all plants grown in it should be very carefully watched and watered. When the soil is required for repotting large plants, or to grow them with very large shifts from small to large pots, the sieve used may be coarser, large enough in the mesh to let a marble through. Some cultivators were using at the same time, and with equal success, three instead of two parts of loam; but very much depends on the quality of the loam, which, if heavier or of a more tenacious character than we have mentioned, should be rather lessened in quantity.

CHOICE OF PLANTS.—As there is no method of choosing plants equal to that of selecting those in bloom, the following points should be attended to as much as possible. First, that the plant be of shrubby habit, the stems being woody and well clothed with foliage, branching well, and forming a bushy shrub on a small scale. Secondly, that the flower stems should not rise too high above the foliage, for it would be desirable that no bare stalks should be seen between the leafy shrub and the flowers. Thirdly, that the flowers should have footstalks of such length

as to display the bloom to advantage, without being crowded or too far apart. Fourthly, that the flowers should be smooth and full, like a small distended bladder, not flattened, nor indented like a melon, perfectly round in the outline, whichever way it is viewed. Fifthly, that the colors should be bright or dense, which gives richness; that any marks or blotches should be well defined, and the ground color as good at the back as the front. Sixthly, that so far as is consistent with these points, the largest flowers should be chosen. But with regard to the roundness and freedom from indenture, so large a majority of the present varieties are deficient in these respects, that all we can do is to pick those which are the most round and least indented, and be satisfied with those that are the nearest to the standard we require. This selection should be made without regard to names or price, for, like the varieties of many other subjects, the dearest are not by any means always the best. If, however, we desire plants before they bloom, the only points we can choose are those which relate to the habit of the plant, which, if handsome when small will rarely grow worse as it increases in size. We may consult the last published authority for the best names, or take the recommendation of a respectable florist, (and we ought never to deal with any other,) for the number we require, first letting him perfectly understand the points we wish to secure. Nor must we be disappointed if the collection contain some which approach our standard at a very humble distance. The *Garden Almanac* for 1847 gives us a list of the best new ones:—*Masterpiece*, *Puissant*, *Julia*, *Emperor*, *Oscar*, *Lord Hardinge*, *Marmion*, *Marquetry*, *Matchless*, *Orlando*, and *Plant's Carnation stripes*, and there is no doubt they are the best exhibited; but some of them are mentioned for their color, some for their habits, some for their form, and some for their novelty. There are older ones which equal them, such as the *Mr. Kinghorn's* best half dozen, and *Mr. Standish's* best three or four, which may be had, as well by that distinction, as by their names. These plants, obtained early in the spring, will be best retained in their pots until their fibres reach the side; or if, on examining them, their balls are at all full of roots, they should be at once sifted.

REPORTING OR SHIFTING.—Procure pots

one or two sizes larger than those the plants are in; for instance, if they are in the pots called large sixties, they may be shifted either to the size called forty-eights, or the next size, called thirty-twos. We, for the sake of their taking less room, prefer only one size larger, and should use forty-eights. Give the new pots some broken potsherds or crocks at the bottom, say an inch or inch and a half deep; then put enough compost in the pot to bring the ball even with the top of the pot without pressing. If the roots have grown about the crocks in the original pot, do not disturb them to hurt the roots; but when the ball is turned out, rub off the soil from the top surface a little, but not enough to disturb the fibres; then set it in the centre of the pot into which it is to be placed, press it down a little into the soil already there, so that the collar of the plant is just below the level of the top edge of the pot; with the hand fill up the vacancy all round, shaking it gently down by knocking the bottom of the pot down on the potting table or bench, and, if necessary, gently pressing it down at the sides, by a piece of stick of a proper thickness, not to touch the fibres which are round the outside of the ball; then, placing a little of the compost on the top, which should be about as high as the edge of the pot, finishes the operation.

The plant should be placed in a cold pit, or even a common garden frame, on a dry bottom, impervious to wet, so that the water that runs through the pots will not soak into the ground, but run off altogether; and they should be covered with the lights close for two or three days, being first watered gently, but thoroughly, to settle the earth to the roots. If the frame be like those for the culture of ordinary melons and cucumbers, only one board thick, it will be as well to heap up earth all round, like a bank, providing, however, by some means, for the running off of the superabundant water; and the greatest care must be taken to cover them from frost and cold winds, with matting or transparent cloths; for the plant, though half-hardy, will be easily damaged with frost, if in a growing state, and cannot be too carefully guarded against it, although it requires no heat. Many who have a green-house, place them on some of the shelves, in preference to growing them in pits; but, where there is so much space, there is more danger of frost, unless

artificial heat be given in hard weather ; and the Calceolaria does not thrive so well, nor grow so handsome in heat ; they are apt to draw, and it is the very last plant that should be at all drawn, on account of its spoiling the habit and appearance, and weakening the flower stems. It is necessary to keep them near the glass, and it is almost impossible to have them too near. Besides, plants in frames or pits are so well under the eye, and we can see so much better when they require water.

WATERING AND GIVING AIR.—Although the Calceolaria is, with care, among the easiest managed subjects, that care must not be withheld, for it is the most liable to damage by the least neglect. Too much water will damp them off quickly ; too little will destroy them, or hand them over to the red spider, which almost instantaneously attacks an unhealthy plant. The compost should never become dry, and, except when the plants are growing rapidly, not too often watered ; there is never, or at any rate, there is rarely, sufficient attention paid to this important operation. It is almost destructive to omit watering one hour longer than the time they ought to have it. In mild weather the lights should be taken off ; and this is the time when, if the weather be dry, the moisture rapidly passes off and requires renewal. On the other hand, in cloudy or dull, though mild weather, the moisture may be retained for a long time. It should never be thought too much trouble to turn out a plant, to examine the state of the soil and the roots. The greatest danger of suffering from wet is in the winter and early spring months. The greatest danger of suffering from want of water is after the spring growth commences in earnest, and the flower stems begin their work ; for the plant takes up a good deal of moisture, and the roots get near the side of the pot. If the weather be very foggy or damp, the frames are better covered up with the glasses quite close, but not darkened with mats or cloth, unless there is frost, or danger of it. The frames should not be opened in windy weather, unless the air be mild. In the spring months, if there be a genial shower, the lights may be removed, that the plants may have the benefit of it. One precaution is very necessary in the application of water ; it always ought to be of fully equal temperature with the atmosphere ; and, if it be not so naturally,

which is seldom the case, unless it be exposed to the sun in shallow vessels, it ought to be made so by putting a little warm water into the water-pot, so as to raise the temperature a little. Water kept in a heated house would do ; but there is no way so simple as to put a little heated water to the quantity you are using. Many plants suffer greatly from the chill given by pump and other cold water, when they are sending forth their young growth.

SHADING.—As the warm days advance, the full power of the sun would be injurious to the plants, and rapidly dry up and heat the soil in the pots. To prevent this, a thin or transparent cloth should be used, that will not exclude the light, but yet keep off the power of the sun ; as the plants however want air, the glasses should be propped up at all four corners, with blocks of wood, or bricks, or flower pots, or some other contrivance which will allow the air to pass freely over all the plants ; and the shading is only to be continued in the strongest heat of the day. At morning and evening, when the power is not great, they may have the benefit of it with the glasses off, until the period when the color of the flowers begins to show, when they must be still more carefully protected against the sun.

TREATMENT TO THE TIME OF BLOOMING.—In the spring, when the plants begin to grow, the pots rapidly fill with roots, and it will be necessary to examine them, by turning out the balls of two or three occasionally, to see how far they may require shifting to larger pots, from 48s to 32s. The operation has to be performed in a manner precisely similar to that of the first shift from 60s to 48s, and they must be treated in all respects the same. In a comparatively short time even these will be filled with roots ; if the plants, from their size, require one shift more, the state of the roots must be examined as before recommended, and the shifting will be just the same as well as the treatment afterwards. As the stems rise for bloom they may require support, but proper habited plants will not, unless they are drawn up. If, however, for the purpose of traveling or for exhibition, tying up becomes necessary, it should be done with very slight twigs of osier, with the bark on, and as soon as the flowers begin to swell and take their places in their bunches : the twig should reach above the flowers and be tied loosely,

for the stems would grow, and if confined, would be bent, unless the tie were loose enough to slip up with the growth. As the blooms develop themselves, it is the fashion to put the plants in a house, but shading and plenty of air must be attended to as usual, and plenty of water must be given. According to the size of the plants, so must the pots be increased in size as fast as the roots fill up the old ones; and a continuance of watering, giving air, and shading will bring them to perfection.

SEEDS AND SEEDLINGS.—The plants destined for seeding should be placed together in the open ground, or in a pit which can be altogether uncovered when necessary. If it be intended to fertilize one particular kind with another, take a camel's hair pencil, to collect the dust of the one, and brush the pistil of the other with the camel's hair pencil, and the dust will stick to the female organ of the plant; but it is far better to place such as are considered good together in one place, and let them fertilize themselves. Cover them against excessive rains, because they are unfavorable to the seeding of any thing, but in an ordinary season they will seed plentifully; and all that is necessary is to place none for seed that have not any distinct characters, and very desirable ones, so that any kind of mixture may bring two good properties together in one flower, which are at the beginning in two separate ones. The seed must be gathered carefully as it approaches ripeness, and the pods be placed in a paper under cover, where it will not be prematurely laid by in a damp or unripe state. It is better to gather it before it actually turns brown, because it ripens as well for a week on the stems cut off, when once it is full grown, as it would on the plant. When once dried well, it may be sowed in pans or boxes, or large-mouthed pots, thinly and evenly, and be placed in the green-house, or in the pit, and covered with a bell glass until it comes up; providing at all times for sufficient moisture to prevent the seed from drying again after having swelled. It should also be shaded from the heat of the sun. Upon the whole, the seed, when sown, would be better in a green-house, covered however, with a hand or bell glass, and kept merely a little moistened by watering with a very fine rose or a patent syringe, for the water should fall in very fine particles like dew, as the seed would be displaced by it. When the seeds come up they

should be carefully shaded, and the glass should be taken off by day, and put on again at night. A simple and effective shade is to merely cover the side of the glass next the sun with a piece of paper; it keeps off the bright and burning heat without materially affecting the light. When the plants fairly set off growing, the bell or hand glass may be removed altogether; and as soon as the plants are large enough to handle, they may be pricked out, in wide-mouthed pots, an inch apart, beginning a row close to the edge and working inwards; a pot will hold a good many plants this way. After a very gentle watering with a fine rose or syringe, they should be covered with a glass and placed within sight near the window in the green-house or in the pit; the glass must be kept over them until they have fairly established themselves, when it may be taken off, and they may grow until they pretty well touch each other. When they have become strong, and the foliage nearly covers the pot, they may be placed one each in the large 60 size pots, and be set in a frame, and after watering them, to settle the compost about their roots, they may be shut up close for a day or two; they must be now shaded from the violent heat of the sun for a while, but when they have once got hold again, and established their roots, all the care required is to see they are well and frequently watered in hot weather. They will show their habits very early, and if we were growing them we should throw away all that showed they were herbaceous, for to say the truth, we do not value them more than we should a single pink or a double polyanthus. If the pots fill with roots towards the winter time, the changing to larger ones had better be deferred to the period at which they begin to grow again, as they can hardly be kept better than at rest during the severe weather, if there be any. As the early spring approaches, they may be all shifted into 48 sized pots; or if there are more than can be conveniently grown in pots, they may be held back, or a portion of the least promising habits may be held back, to bed out or put in the borders. The treatment, in short, of the seedling plants when once they have been raised, up to the filling of the small pots, may be assimilated to that already given for other plants.

SELECTING FROM SEEDLINGS.—We cannot do better than refer the reader back to

the instructions for the choice of plants when in flower; for as he would pick from the stock of others for his own garden, so ought he to select from the stock of seedlings such as are worth cultivation, and throw or give all the rest away. Indeed, as the flowers come out, all that are good for nothing should be cast out the instant they are discovered, that they may not spoil the seed of the better ones by inoculation.

TREATMENT OF PLANTS AFTER BLOOM.—The branches should be cut back a little into form, the useless or thin wiry shoots cut out, the plants cleansed, the top surface of the compost stirred and thrown out, and a fresh top-dressing put on. They may stand in their frames, receiving pretty nearly all the weather, except the most violent of the rains and east winds, until September, when they must be deprived of more wet than is absolutely necessary, and be secured against frost. As the plants enlarge, they will require other pots, but they may enjoy a period of comparative rest from the end of October till they make a fresh move in the early spring; however, plants of good shrubby habits do not actually stop growing at all. Before they are shut up for the winter, the surface should be stirred, the loose mould shook off, and the pots filled up level; they will scarcely want watering all the winter, unless it be unusually bright and warm.

SPRING SHIFTING.—The established plants and seedlings alike require to be removed to larger pots as soon as there are any symptoms of making new growth, that is, presuming the pots are full of fibres, or at least that these have reached the side. The sized pots in which they are to be placed must depend on the size they are removed from; from 60s to 48s, from 48s to 32s, from 32s to 24s, from 24s to 16s, and 16s to 12s, which is large enough to carry a very handsome, well-grown specimen. The mode of shifting has been described.

CUTTINGS.—In going over all the plants, to see that there are no useless shoots left on, many will be found that may be removed, by merely breaking them off from the base; very small ones will answer all the purposes of propagation. Those who require many will grow a few plants pretty hard after blooming, to induce shoots on purpose to take off, but any small pieces will strike readily in the ordinary compost, with a quarter of an inch of silver

sand at top. The cuttings must be put in so as to touch the compost, but not to go into it, and the sand will always protect them from the air by working down close every time it is watered. They should be covered with a bell glass, that touches all around the inside of the edge of the pot; but as most cuttings strike more readily when placed close round the edge, so as to touch the pot, it is better to fill a pot with cuttings all round the edge, and to place this pot inside another, with a good inch of room all round; the bell glass resting upon the soil, which must be filled in between the two pots. The object of the glass is to exclude drafts of air, and prevent evaporation from taking place too rapidly. A slight bottom heat will facilitate the striking, but the glass must be wiped dry inside every day, and the soil kept moist, for if once the cuttings become dry, they would stand a poor chance of recovering. In a few weeks the cuttings will begin to grow, which is a pretty safe indication of their having struck, and when they have acquired some strength of root, they may be potted off carefully, one in each pot, which may be the smallest or thumb pot, or the first recognized size, small 60s. They should be closed up in a frame a day or two, and then submitted to the treatment already described for plants brought in, which, with some varieties, are rarely more than a struck cutting in the first separate pot.

THE KINDS TO SELECT.—A very minute description of each separate variety would have a great degree of sameness; for the variety is occasioned by the different shapes of the spots as much as anything. We therefore give a list of the sorts we should buy to begin with, and should then be content to take in addition any that appeared better in blooming time, but none that were worse:—

Lady Anne Charteris, Professor Wilson, Duchess of Sutherland, Kinghornii, Lady Blantyre, Celebration, Lady Constable, Standishii, Masterpiece, Puissant, Julia, Emperor, Oscar, Lord Hardinge, Marmion, Marquetry, Matchless, Orlando, and Plant's Carnation Stripes; which last is a singular strain, entirely run away from all the others.

THE PROPERTIES OF THE CALCEOLARIA.—The plant should be shrubby; the habit bushy; the wood strong; the foliage thick and dark green.

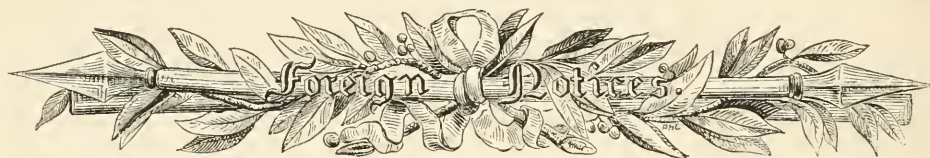
The flower-stem should be short and strong;

and the foot-stalks of the blooms classic, and branching well away from each other, to form a rich mass of flowers without crowding. The individual flower depends entirely on the form of the purse; it should be a perfect round hollow ball; the orifice and calyx cannot be too small, nor the flower too large.

The color should be very dense; whether the marking be a spot in the middle, or stripes, or blotches, it should be well defined; the ground should be all one color, whether white, straw, sulphur, yellow, or any other color

The color of a self should be brilliant, and all over of the same actual shade; dark flowers with pale edges, or clouded and indefinite colors, are bad and unfit for show.

The bloom should form one handsome bunch of pendent flowers, commencing where the foliage leaves off; the flower-stem should not be seen between the foliage and the flower, which latter should hang gracefully, and be close to each other; the branches of the flower-stems holding them so as to form a handsome spreading surface.



THE MARKET GARDENS ROUND LONDON, BY JAMES CUTHILL, FLORIST, Camberwell.—Covent Garden, the head market of this great metropolis, has long been celebrated for the finest fruits, vegetables, and flowers in the world, being different now from the time when the poor German gardener settled on a piece of land near the Monster public house, Chelsea, on the lands of the Westminster family. This man bought dung where he could find it, and put it on his ground. The landlord brought an action against him; "but," says the landlord, "as you are an industrious man, I shall forgive you if you will promise me never to poison my land any more, by putting such filthy stuff on it." The market gardeners round London from time to time have been stimulated by receiving large prices for their articles, from living in the vicinity of such wealth. It being the head-quarters of the government of this mighty empire of a hundred millions of people, can it be doubted that the most extravagant prices could be obtained in Covent Garden market? For dung the carter is allowed 2s. 6d. for a single load, and for waggons 5s. I have known many coachmen in the Mews at the west end, that were obliged to give those carters 6d., 9d., and 1s., to clear the manure away. These men have long hours; but between wages, which are from 15s. to 20s. weekly, and the buying of manure, their wages sometimes reach 30s. per week. A country person will hardly believe me when I tell him that nine cart and waggon loads of vegetables have been brought by one grower, the celebrated Messrs. Fitch, of Fulham, off their 100 acres of land, and all sold in Covent Garden by Mr. Fitch by 9 o'clock in the same morning. Those men

once sent in a four-horse waggon of scarlet Ten-weeks Stock, all pulled up by the roots, and in full bloom; they were sold by 7 o'clock in the morning, and fetched 30l.; but it did not pay the expenses, and was discontinued another year.

Sixty pounds have been obtained for an acre of cabbages, and upwards of 100l. for an acre of rhubarb, and more for asparagus, 140l. for an acre of white Cos lettuce, 150l. for an acre of strawberries, &c. I have myself taken 30l. for 15 rods of ground of early potatoes in the open ground, managed as I have directed in my pamphlet; 10s. for a cucumber, and 20s. for a melon, 2s. an ounce per forced strawberries, and 25s. for forced grapes per pound. I have also taken 6s. a pound for early strawberries, in the open ground, upon early borders. The above prices seem high, but the expenses are enormous. Mr. Fitch, of Fulham, has told me that his 100 acres have some years cost him, everything included, very nearly 4000l. The above prices cannot any longer be maintained; an immense change has taken place since free trade and railroads have been introduced.

The change is fearful upon the old market gardeners—they cannot understand it. They little think how many fresh market gardens have sprung up in all directions, and along the lines of railways—land at 30s. an acre instead of 10l., labor low, railway carriage cheap, and everything else in proportion. And again, all those families that used to consume the London grown article, now have their own garden produce sent by railway. They little think, also, that railways and steamboats are continually emptying London on the Sundays. and all other times, by the tens of thou-

sands, to eat the fruits and vegetables of country gardens. That was not the case a few years back. However hard it may be for those near London who are high rented and most severely taxed, yet it is a great and decided change for the general benefit of mankind. Railroads have given one great advantage in the early spring to the London growers. Having the climate in their favor, they send a great deal of their vegetables northwards—as early potatoes, peas, French beans, cauliflowers, rhubarb, melons, cucumbers, and other finer sorts of fruits and vegetables. The foreign articles do not hurt our markets in the vegetable line, because being grown in a warmer climate, they come in long before we do, and by the time our early potatoes, cauliflowers, peas, French beans, &c., are in, the foreigners' early crop is over, or at least it would not pay them to contend against us, unless in cucumbers, and they are bad. As for Dutch melons, no one of refined taste will eat them. The foreign growers have hurt our fruit trade to an immense degree—such as apples, pears, plums, cherries, apricots, &c. As for Dutch grapes, they look beautiful, but are tough, and three seasons out of four tasteless. The middle classes in and round London cannot afford themselves strawberries more than a few times, and that only when a great crop is in full bearing. When a pottle is sold by the cultivators at 6d., the weight of which is three-quarters of a pound, the grower gets only 3d., and after paying 3d. for the pottle, and 10l. an acre, with all other expenses, the strawberry grower is but poorly paid. Much more could be said about the market gardening of London; but the conclusion we must come to is, that it consists in continual dunging, trenching, digging, sowing, hoeing, planting, taking the produce to market, bringing home money and dung, paying for labor, taxes, and breakage. I shall not disregard skill altogether, but dung is the very fountain-head—it is the gold in a half-formed state; and from the immense profits returned, it stimulates to the use of still more manure, till at last the ground is almost a hot-bed. The crops are no sooner planted than they find their food at once, and their growth is rapid and fine. This will explain why a London gardener can get up acres of turnips where farmers fail. Rotation, no doubt, is good in all crops where the land is poor, but as I have grown potatoes these ten years upon the same ground, and every year the crop increases, I for one care little about rotation.

The market gardeners of London could bring the early produce in much sooner by forming beds, the perpendicular part facing the north, the bed sloping to the south, as I have practised myself years ago in a stiff soil, and light, too; and with the protection of glass over these beds, as recommended in the *Gardeners' Chronicle* for peaches, apricots, and nectarines, they might almost bid

defiance to the foreign grower. With the assistance of glass and the slopes together, they would certainly be equal to the gardens round Paris. Without protection of glass we can prolong fruits and vegetables out of doors without any loss, but what is most wanted is early fruits and vegetables at a cheap rate, which can only be effected by some cheap process such as has been recommended above. I am about to publish a pamphlet on twelve of the leading and most useful plants and vegetables. I have proposed an entirely new plan of growing asparagus and sea-kale, and if carried out properly, the million will partake of those most delicious vegetables which at present they never taste. *Abridged from the Maidstone Journal for the Gardeners' Chronicle.*

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BREWING AT HOME.—Though an admirer of teetotallers, and always recommending, when practicable, the habit of drinking cold water, still, as there are some people who cannot work without the assistance of a glass of beer, and many others who *fancy* they cannot do so, I, therefore, think neither time nor space will be wasted if I make a few remarks on "brewing at home."

I dare say such a sentence will frighten many, and they will immediately exclaim, "Brew at home, impossible! I have neither coppers, coolers, mash-tubs, nor any of the hundred-and-one articles necessary for such an operation." Never mind, do not throw obstacles in our path, but read, learn, and practise! I must, however, tell you at starting, that it will cause extra trouble to the wife; but I am very sure there are few, if any, amongst the "wives and daughters of old England" who will grudge a little exertion when once they feel that by so exerting themselves they will benefit their husbands, children, and, consequently, themselves. And now let us see wherein the benefit of brewing at home lies.

In the first place it increases your comforts, in the second place it saves time, and thirdly it saves money—three very material points; but still, more than this, it removes many temptations out of a man's path. The habit of going to a public house, if only for one glass of beer, has been the occasion of many an after pang, many a heavy heart. That constant habit of even fetching your beer from the public house must waste much time, even if not tempted to drink it in the house instead of at home. Very often a child is sent to fetch it, and thus the young mind becomes early habituated to the sound of oaths and jests which every parent ought so carefully to screen their children from hearing; for who can tell the misery which arises from early acquaintance with vice? Early impressions take deep root, whether good or evil, and our hearts being so prone to sin, the evil habit which is imbibed with our early youth is more difficult to eradicate than the good; therefore, how studiously should each parent watch over the soul's welfare of his child,

and not place him in scenes where he knows "sins abound."

I am sure, as I said before, when this is taken into consideration, trouble will not be withheld, but many will willingly try a plan which is likely to place temptation a little farther from their threshold.

I will now tell you the articles necessary for brewing at home. Every cottage owns a large saucepan—one that holds about three gallons is a good size; this will answer the purpose of a copper. A tub will be the utensil for working the beer in; and if you cannot conveniently buy a small mash-tub, bore a hole in the bottom of a pail to allow the liquor to run slowly through. These three things are all that are really necessary; and now, as to the materials of the beer. Those who have been accustomed to drink brewer's beer will not, perhaps, at first like the pure malt and hops; their taste, however, will soon improve; or if not, they will find by adding to every two bushels of malt the following ingredients, they will obtain beer very similar to what they have always drunk:—"3lbs. sugar, boiled up once in a very little water, with one pennyworth of coriander seed, and one pennyworth of capsicum." Malt must be carefully chosen, the amber coloured is the best. It should not be ground, but merely crushed. Hops should be new; when good, they have a yellowish green colour. *Soft water* should be used, if possible, for brewing; and every article must be most scrupulously clean.

I will suppose you wish to brew six gallons of beer, and for that quantity you must have a pot which will contain four gallons of water. Have ready in your mash-tub one peck of crushed malt (be careful to have the hole in the tub stopped.) When the water nearly boils, pour it on to the malt, stir it well for ten minutes, cover the pail over with a thick sack or piece of wood, and place it by the fire for two hours. Hold the pail over the tub, draw out the peg, and let the liquor run. Stop the hole again, and add to the malt two gallons more of nearly boiling water, cover as before, and set by the fire for an hour. Put the first strained liquor into the copper or pot, and add four ounces of good hops; boil for twenty minutes; strain it into a tub; return the hops to the pot, and add the second addition of wort, which has been standing by the fire; boil this half an hour; strain and cool this as you did the first; when lukewarm mix them together, and stir in $\frac{3}{4}$ of a pint of yeast. Skim it frequently during the day, and when it has stood twenty-four hours in the tub, put it into a cask; leave the bung-hole open as long as any yeast rises, but when the fermentation is over, hammer the bung tightly in, and leave it for a week, by the end of which it will be fit for use.

One of the chief points in brewing is to attend to the proper heat the water has before it is poured on the malt. If it is too hot, it contracts the

malt, and prevents the full flavor from appearing; the proper temperature is 180°, but as a thermometer is not a likely appendage to a cottage wall, the hand must be depended upon. You should just be able to draw your hand quickly through the water without experiencing pain.

There are several other methods of making beer, such as with potatoes, mangold wurtzel, and sugar; but I will reserve these for some future occasion, my present object being to tempt the cottager's wife to brew her husband's glass of beer. At the present time it will prove most economical, malt being cheap, and brewer's beer remaining at the same price. *London Cottage Gard.*

WORKING GARDENS.—Resuming our observations upon the light afforded to gardening by other sciences, we will commence by observing that the benefits derived from keeping the roots of plants near the surface of the soil are more apparent in fruit trees and other perennials than in our annual crops, inasmuch as that the roots of trees being thus kept within the influence of the solar rays, always vegetate early, and ripen well their young wood. The quantity of oxygen absorbed by the roots of growing plants, is very large; being, in the instances of the radish, carrot, and others, not less than their own bulk in the course of twenty-four hours.

Digging, hoeing, and trenching, are the practices employed for facilitating the access of the air to the roots of plants, by rendering the texture of the soil loose and easily permeable.

Very few people ever consider in detail the expenditure of labor required from the garden laborer when digging. It is a labor above all others calling into exercise the muscles of the human frame; and how great is the amount of this exercise, may be estimated from the following facts:

In digging a square perch of ground in spits of the usual dimensions, (seven inches by eight inches,) the spade has to be thrust in 700 times, and as a spadeful of earth, if the spade penetrates nine inches, as it ought to do, will weigh on the average full seventeen pounds, eleven thousand nine hundred pounds of earth have to be lifted; and the customary pay for doing this is 2½d.

As there are 160 perches or rods in an acre, in digging the latter measure of ground, the garden laborer has to cut out 112,000 spadefuls of earth, weighing in the aggregate 17,000 cwt., or 850 tons; and during the work he moves over a distance of fourteen miles. As the spade weighs between eight and nine pounds, he has to lift, in fact, during the work, half as much more weight than that above specified, or 1,278 tons.

A four-pronged fork, with the prongs twelve inches long, and the whole together forming a head eight inches wide, is a more efficient tool for digging than the common spade. It requires the exertion of less power; breaks up the soil more effectually; and does not clog even when the soil

is most wet. It is less costly than the spade, and when worn can be relaid at less expense.

The following table, showing the results of the experiments of M. Schluber, exhibits the comparative labor required in digging various soils, and the same soil in various states. Thus, if to penetrate with a spade, when dry, gray pure clay required a force represented by 100, then to penetrate an arable soil in the same state would require a force equal only to 33, or about one-third; so in a wet state the clay would adhere to the blade of the spade with a force equal to 29.2 lbs. the square foot, while the arable soil would only adhere to the same surface with the force of 6.4 lbs.

	Firmness when dry.	Adhesion to a square foot of iron when wet.
Siliceous sand.....	0	3.8 lbs.
Calcareous sand.....	0	4.1
Fine lime.....	5.0	14.3
Gypsum powder.....	7.3	10.7
Humus.....	8.7	8.8
Magnesia.....	11.5	5.8
Sandy clay.....	57.3	7.9
Loamy clay.....	68.8	10.6
Brick earth.....	83.3	17.2
Gray pure clay.....	100.0	27.0
Garden mould.....	7.6	6.4
Arable soil.....	33.0	5.8
Slaty marl.....	23.0	4.9

The preceding observations and facts are applicable to *hoeing*, an operation beneficial in consequence of loosening of the soil, as much, or more, as by its destroying weeds. Moisture abounds in the atmosphere during the hottest months, and it is absorbed and retained most abundantly by a soil which is in the most friable state. Professor Schluber found that 1000 grains of stiff clay absorbed in twenty-four hours only thirty-six grains of moisture from the air; whilst garden mould absorbed in the same time forty-five grains; and fine magnesia seventy-six grains. Then, again, pulverizing the soil enables it to better retain the moisture absorbed. This we demonstrated some years since, and the reason is, obviously, because a hard soil becomes heated by the sun's rays much more rapidly than one with a loosened texture. The latter is better permeated by the air, which is one of the worst conductors of heat. We are glad to find our opinions confirmed by so practical and intelligent a man as Mr. Barnes, gardener to Lady Rolle, at Bicton Gardens, Devonshire. He says, (*Gard. Mag.*, Sept. 1843.) "I do not agree with those who tell us, one good weeding is worth two hoeings; I say, never weed any crop in which a hoe can be got between the plants; not so much for the sake of destroying weeds and vermin, which must necessarily be the case, if the hoeing be done well, as for increasing the porosity of the soil, to allow the water and air to penetrate freely through it. I am well convinced, by long and close practice, that oftentimes there is more benefit derived by crops from keeping them well hoed, than there is from the manure applied. Weeds or no weeds, I still keep stirring the soil; well knowing, from practice, the very beneficial effect which it has.

"*Raking* the surface fine, I have almost wholly dispensed with in every department. By hoeing with judgment and foresight, the surface can be left even, wholesome and porous; and three hoeings can be accomplished in one hoeing and raking. Much injury is done by raking the surface so very much. It is not only the means of blinding and caking the surface, but it clears the stones off as well.* The earth, in its natural state, has stones, &c., to keep it open and porous, &c. If the earth be sufficiently drained, either naturally or otherwise, and the surface kept open, there is no fear of suffering either from drouth or moisture."

Exposing the soil in ridges during the winter is usually practised by gardeners for the purpose of destroying predatory vermin, but it is also beneficial by aiding the atmosphere to pervade its texture, which texture is also rendered much more friable by the frost. M. Schluber says that freezing reduces the consistency of soils most remarkably, and that in the case of clays and other adhesive soils, the diminution of this consistency amounts to at least 50 per cent. In hoeing clay, he found it reduced from sixty-nine to forty-five of the scale already stated, and in the ordinary arable soil from thirty-three to twenty. He satisfactorily explains this phenomenon, by observing that the crystals of ice pervading the entire substance of the frozen soil, necessarily separate the particles of earth, rendering their points of contact fewer.—*Cottage Gardener*.

ASPARAGUS.—At page 246 of the *Cottage Gardener* for January, 1850, some hints are kindly given of the Dutch method of cutting asparagus by Mr. Rushmere. Now the manner in which I have dealt with asparagus beds, and my method of cutting for many years, are very different.

Winter Dressing.—In the first place, I never root prune the plants by throwing out deep trenches between the beds, as is too often done in very many cases; that is, by putting over the beds a good dressing of manure, then placing a line down the side of each bed and chopping off every root that has found its way into the alley. Very usually some of the best roots have thus run out into the alleys, which is not to be wondered at, for in the spring, say in the month of March, these beds in most gardens are forked over, and much of the soil and rough parts of the manure are worked back into the alleys again. This, of course, is a comfort to the poor roots that have been exposed throughout the winter to all weathers along the sides of these deep-dug alleys.

I have assisted often in the above sorts of work years ago, but for the last seventeen years I have not dug out a single trench between a bed.

When the stems are cut away in the autumn, the beds are cleaned, if weedy, and carefully forked up. A thoroughly good dressing of manure is put all over the beds equally, and when

* A finely pulverized, even surface cakes after rain much more than a surface rather rough.

this is done the alleys are forked over too; whilst, for the sake of giving the whole a neat finish, a line is put down each side of the alley, the edges made up a little, and, perhaps, a few crumbs from the alleys may be thrown upon the beds, and the edges marked out with the point of the spade. The work is then done for the winter; and, of course, the asparagus beds neatly done in this way give the kitchen-garden a tidy appearance for the winter months.

Spring Dressing.—In the month of March these beds are again forked over carefully, the manure and soil well broken up and mixed together, and some of the rougher parts of manure, with all the rakings, are forked into the alleys after the beds are raked over nicely, and lettuces are there sown or planted in succession for the summer months.

Cutting the Produce.—Now, although I have been a cultivator of the asparagus for so many years, I have never been an eater of this much esteemed vegetable, therefore the thought did not strike me about the best way of cutting it, until one day, some seventeen years ago, when I had an abundance of heads to cut from, *all of good length above ground*, I received orders for asparagus for a dish, and for another for soup. The latter dish was to be of heads all green. I well supplied the cook with heads green enough for her dish required, and her soup too; and a first rate cook she was.

The next day, when I waited upon her for orders, we had a little talk about the green asparagus for the table, when she told me the asparagus I had brought in the day before was the best she had ever dressed for table—it was large, of good flavor, and *the whole eatable*. This was a good hint for me, for it opened my eyes greatly as to the management of the asparagus beds altogether. But the matter did not rest here, for my employer also soon found me out to praise the asparagus I was then sending him in. And thus have I continued ever since, year after year, continually receiving compliments and inquiries about it from innumerable friends of my excellent employer.

Of course, those who daily eat these kinds of vegetables, must be the best judges of their quality; and in the act of cutting the grass or young heads in this way, *taking only the part above the ground*, the operator can see what he is doing; and, however inexperienced he may be, he can cut a dish of asparagus without any loss. On the other hand, a person not used to this work, or with the usual long-handled, saw-toothed knife for cutting, wood make sad havoc among the underground shoots in cutting a dish or hundreds for the market; for when thrusting the knife into the ground to cut one head, he would probably break off two or three others unseen at the same time. This old-fashioned saw-toothed knife I have not used since I have cut my asparagus above ground—that is, level with the surface of the earth; I

use just what knife I may have in my pocket at the time, and it often happens that my pen-knife is obliged to be used, from having no other about me at the moment. T. WEAVER, *Gardener to the Warden of Winchester College. Cot. Gard.*

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MEXICAN VEGETATION.—They left the stream on the following morning, and striking northerly across the country, came upon a wide expanse of luxuriant plains and woodland, glowing in all the splendor of tropical vegetation. The branches of the stately trees were gaily festooned with clustering vines of the dark purple grape, variegated convolvule, and other flowering parasites of the most brilliant dyes. The undergrowth of prickly aloe, matted with wild rose and honeysuckle, made in many places an almost impervious thicket. Amid this wilderness of sweet-smelling buds and blossoms, fluttered numerous birds of the parrot tribe, and clouds of butterflies, whose gaudy colors, no where so gorgeous as in the *terra calcente*, rivaled those of the vegetable creation; while birds of the most exquisite song, the scarlet cardinal and the marvellous mocking-bird, that comprehends in his own notes the whole music of a forest, filled the air with delicious melody. The hearts of the stern conquerors were not very sensible to the beauties of nature, but the magical charms of the scenery drew forth unbounded expressions of delight; as they wandered through this "terrestrial paradise," as they called it, they fondly compared it to the fairest regions of their own land. As they approached the Indian city, they saw abundant signs of cultivation, in the trim gardens and orchards that lined both sides of the road. They were now met by parties of either sex, who increased in numbers with every step of their progress. The women, as well as men, mingled fearlessly among the soldiers, bearing branches and wreaths of flowers, with which they decorated the neck of the general's charger, and hung a chaplet of roses about his helmet. Flowers were the delight of this people. They bestowed much care in their cultivation, in which they were well seconded by a climate of alternate heat and moisture, stimulating the soil to the spontaneous production of every form of vegetable life. *Prescott's Conquest of Mexico.*

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ACCLIMATIZING EXOTIC PLANTS.—Let no one imagine they will successfully acclimatize an exotic plant without paying strict regard to the circumstances of the plant in its native habitat, such in part as situation, aspect, elevation of site, temperature, humidity, time of flowering, seasonal changes, &c.

These circumstances must be all more or less studied by whomsoever would successfully acclimatize exotic plants. A plant may be a native of a country warmer than our own in some degree, yet if its native situation be a moist height or shady mountain side, we should undoubtedly do

wrong in placing it in a dry, hot, sheltered situation in this country.

On the other hand, a plant may be a native of a colder country than our own, yet if its native situation be a sunny, sheltered and dry one, and its season of flowering late, it would surely be wrong and profitless cultivation in this country, to place it in a dull, damp situation; which, were we to look to the only one circumstance of its coming from a colder country, we would naturally do. Again, a plant may be, or may seem to be, from such a cool or shady native habitat, as to feel our summer sun too strong and scorching for it, and accordingly require shading from its too powerful beams; while we must not, on the strength of that circumstance, conclude that the plant will stand our winter's rigor without protection. We must first learn whether it be a native of the northern or southern hemisphere; if of the latter, that will account for its inability to withstand our summer's sun at a season when, though it be summer with us, it would be winter with the plant in its native habitat; and its nature not being changed with its situation, it is only harassed by our summer's sun at a time when it should have and strives to enjoy its winter's rest; therefore it cannot withstand our winter's rigor at the season appropriated to it by nature for its summer of excitement. Were it not for this circumstance, there is no doubt that the half-hardy *Sollya Heterophylla*, *Billardiera Longiflora*, &c., would be among our hardiest wall plants.

These are circumstances the acclimatizer must well attend to ere he plant out a single exotic; and next, and of equal importance, the soil in which the exotic is placed, be its richness or its poorness what it may, must be of an open, free, unretentive texture, and well drained. Such exotics, in general, as are natives of boggy or marshy places, can only be kept well over winter in felt-covered pits or frames, or at the bottom of ponds fed by springs. The plant must be started into a strong and rapid growth in spring and early summer, so as to have its growth completed and properly ripened before winter, when a covering of as dry and impervious a nature as possible must be laid over its roots, and around its base, or *life knot*, so as to exclude alike the frosts and the moisture of our changeable winters. If the bole or branches of such plants receive any protection, it ought to be of a nature more to exclude moisture than air, which is often useful in the severest winters. By observing these simple and easy rules, I have never found much difficulty in having stout and abundant flowering specimens, of such generally considered green-house plants as *Wistaria Sinensis*, *Maurandya Barclayana*, *Jasmines* of all kinds, &c.; on various aspected walls, in many and cold parts of Scotland, they do well for years, where others of a much more hardy nature, but differently treated, died during the winter these plants survived. *Annals of Horticulture*.

THE VERBENA.—This plant is rapidly coming into notice, not less for its use in the garden clumps, than its appearance in vases and pots. The colors are more than ever diversified, and each season adds brilliancy and beauty to collections. Some persons are checking the advance, by selecting bad instead of good ones from seedlings. We have seen some of the new varieties approaching the standard pretty well, though there is much to do yet; but the color of a new sort captivates many growers sufficiently to prevent raisers from doing as they would. Those, however, who wish to advance the flower, should never select narrow petals, nor notched ones, for neither can be good, and the presence of them in a collection would spoil the seed. In choosing any for the garden, fix upon such as are very broad in the petals, in preference to any other quality, and when you have done this in each color, you will have laid the foundation for a collection; but if they are for the flower-garden alone, you have a second point to look for—you must have them dwarf, for a tall, straggling *Verbena* is good for nothing. *Ib.*

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MOTION OF THE SAP.—In our last number an interesting case of BLEEDING AT THE ROOT was mentioned by the Hon. JAMES STUART WORTLEY. It occurred to a large birch tree, whose roots, having been cut through, have bled so much that, although not more than 1½ inch in diameter, a neighboring "walk has been standing in puddles, and the sap was still bubbling up through the gravel," at the date of the letter.

A similar case is mentioned by an anonymous correspondent, who says, "In lowering the ground near a large walnut tree, some years ago, some large roots were cut through; so much bleeding took place in consequence that the tree died."

A letter received from Mr. SPENCER, gardener to the Marquess of Lansdowne, at Bowood, thus describes a third occurrence of the same nature: "This present spring, in forming a new walk, I had occasion to cut through three large roots belonging to an adjoining beech, and which are exposed at the present time. Some time about the middle of March I observed the roots were bleeding considerably, which has continued more or less ever since, the flow being materially influenced by the state of the weather. By the beginning of the present month, the bleeding was sufficient to saturate the walks completely. On examining the roots, with an ordinary microscope, I observed the discharge proceeded from the whole of the exposed cells through the section; but, from the larger diameter of the vessels towards the exterior of the root, the bleeding, as a natural consequence, was greatest at that part. I observed as well that bubbles of air frequently formed on the cut surface, evidently showing that some kind of gas was present, either in the sap or in the cells. Although in bright weather the

discharge was perfectly visible to the naked eye, the assistance of the microscope enabled me to see distinctly the *downward* passage of the sap, and that through *all* the root cells. at a time when physiologists have generally agreed it has its greatest ascending power."

No doubt such circumstances are of constant occurrence, although unobserved. What gives the cases now brought forward so striking a character, is the extraordinary extent to which in them the bleeding occurred.

When stems bleed the observer is in no way surprised; firstly, because he is accustomed to the phenomena; and secondly, because he knows that roots draw fluid out of soil, and send it *upwards*. But when roots bleed, the ordinary explanation of the phenomena is no longer applicable; for roots cannot be said to draw fluid from the soil when they are removed from the soil; nor can it be admitted that sap is sent upwards when we see that it runs downwards.

In explaining the phenomenon of root bleeding, the first step is to consider why sap ascends. This was in part demonstrated more than a century since by our countryman HALES. In discussing the question of the circulation or non-circulation of the sap, this great experimentalist uses the following words: "We see in many of the foregoing experiments, what quantities of moisture trees do daily imbibe and perspire. Now the celerity of the sap must be very great, if that quantity of moisture must, most of it, ascend to the top of the tree, then descend, and ascend again, before it is carried off by perspiration. The defect of a circulation in vegetables seems in some measure to be supplied by the much greater quantity of liquor which the vegetable takes in, than the animal, whereby its motion is accelerated; for by Experiment 1st, we find the sunflower, bulk for bulk, imbibes and perspires 17 times more fresh liquor than a man every 24 hours. Besides, nature's great aim in vegetables being only that the vegetable life be carried on and maintained, there was no occasion to give its sap the rapid motion which was necessary for the blood of animals. In animals, it is the heart which sets the blood in motion, and makes it continually circulate; but in vegetables, we can discover no other cause of the sap's motion but the strong attraction of the capillary sap vessels, assisted by the brisk undulations and vibrations caused by the sun's warmth, whereby the sap is carried up to the top of the tallest trees, and is there perspired off through the leaves; but when the surface of the tree is greatly diminished by the loss of its leaves, then also the perspiration and motion of the sap is proportionably diminished, as is plain from many of the foregoing experiments; so that the ascending velocity of the sap is principally accelerated by the plentiful perspiration of the leaves."

The sap then ascends in consequence of an at-

tracting force exercised from above downwards by the foliage of plants. But it is evident that this is only a partial explanation of the phenomenon; for it does not account for the ascent of sap in winter when leaves are absent. In order to explain that fact we must have recourse to the action of endosmose, a force the effect of which is to produce propulsion. A tree may be assumed to be a combination of hollow tubes freely communicating with each other, and enclosed in a skin *through which fluids are capable of being absorbed* on the one hand, and expelled on the other. If we conceive a body of this kind, in which the tubes are nearly empty, to have its lower extremity plunged in water, the absorbing power of the skin at that part will begin to introduce the water into the interior, and this continuing to go on for a sufficient time the tubes must necessarily become at last filled with water rising upwards from below. To effect this no attracting force at the upper end of the cylinder was necessary; every particle of water which was absorbed by the lower end, having driven before it a corresponding volume of the water previously existing in the apparatus. Under the influence of this operation the tubes would in time become full, and if unelastic the introduction of more water would be impossible. But if such tubes and the skin that encloses them were elastic and extensible, then any such further quantity of water might be introduced as the apparatus could receive without bursting. If we then suppose that the one end of the apparatus were cut open, the sides of the tubes would collapse, and the water would be forced out till there was no more left than the tubes held in their original unstretched condition.

A tree is just such an apparatus. Its tubes are nearly empty at the fall of the leaf. During winter the roots absorb water from the soil and fill the tubes again. By the arrival of spring they are filled almost to bursting, and then if the stem is cut it bleeds; or if the roots are cut they bleed.

Bleeding ceases as the leaves unfold; the vine, the walnut, the birch, are all as incapable of bleeding as other trees when their leaves are formed; because the leaves gradually empty the tubes, put an end to their distension, and prevent its recurrence so long as they remain in an active state.

The excessive loss of sap mentioned in the cases that have produced these remarks could not have taken place if the roots had been wounded in the summer or autumn; and if the trees survive, bleeding will cease with the appearance of leaves. It is probable, however, that it has been increased by the coldness of the spring. HALES himself was aware that sap falls back at night in consequence of the contraction of the tubes by cold; Mr. KNIGHT observed the same fact; and it has more recently been proved experimentally by M. BRON. It may therefore be supposed that

the excessive cases of bleeding now adverted to have assumed so serious an appearance, because, in addition to the natural contraction of the tubes, the mechanical contraction produced by unusual cold has to be taken into account.

As to stopping the bleeding, it will probably be found that Mr. KNIGHT's cement will answer that purpose. The composition of this substance is as follows: To four parts by measure of scraped cheese add one part of calcined oyster shells, or any other pure calcareous earth. Blend them thoroughly, and press them with force into all the tubes and cells that are visible on the wound. The best way is to smear a layer over the surface, and to press it down gradually but forcibly with a flat board. *Prof. Lindley.*

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DESTRUCTION OF SLUGS, SNAILS, AND WIREWORMS.—Having suffered very much in my garden from the depredations of these vermin, I have been induced to try the effect of Swede turnips as a decoy for them. I had a large basketful cut up into slices rather more than half an inch in thickness, and placed about my garden (about a quarter of an acre), and the result of 10 consecutive days' operations, is the securing of the enormous quantity of 9096, besides a great quantity of wireworms and milipedes. The second morning's collection was 2056 slugs and snails; 510 is the smallest collection I have made. The turnip slices I have been using are now put into the ground edgeways, the better to trap the wireworms, and I am employing fresh slices for a further destruction of slugs and snails. *Thomas Colley, in Gard. Chron.*

INK FOR ZINC LABELS.—Take 1 drachm of verdigris, 1 drachm of sal ammoniac powder, and half a drachm of lamp-black, and mix them with 10 drachms of water; and this will form an indelible ink for writing on zinc.—*Gardener's Receipt Book.*

THE SALAD GROUND NEAR ERFURT, alluded to at p. 245, as yielding a profit of £12,000 per annum, was, when I made a tour through Germany, in 1846, wholly devoted to the culture of the common Watercress (*Nasturtium officinale*.) We are informed by "Rhind's Vegetable Kingdom," page 300, that Watercresses were first cultivated in Europe at Erfurt; and that its cultivation is still conducted extensively there, will be readily inferred, when I mention that the markets of the greater portion of Germany derive their supply of it from this source. I visited Erfurt in February, and even at this (for central Germany,) very early season, I observed that the Watercress, in consequence of the natural warmth of the spring from whence the "Salad-ground" was irrigated, was already being collected for the markets. From the great extent of ground under Watercress cultivation at Erfurt, and from information obtained on the spot, respecting the profits derived therefrom by the proprietors, I unhesitatingly

assert that the amount of revenue alluded to by Professor Ansted, though great, is far from being exaggerated, as "A. C." seems inclined to suppose. *Theodore Baubin. Chatsworth. Gard. Chronicle.*

SEEDS OF DAHLIAS AND OTHER DOUBLE SYNGENECIOUS FLOWERS.—In saving seeds for sowing, never take them in the centre; take none but petal seeds, for they will give the largest proportion of double flowers. China Asters and Dahlias have generally some disc seeds, if they are even very double; therefore on taking the pod to get out the grains, begin from the outside, and when you have got a few of the rows of seed from them, throw the rest into a common sort, which you may give away or sell; but building upon the chances of good flowers, you will be much better paid for your labor by the few outside seeds, than you can by sowing the whole. This is worth attention.

RAISING SEEDLING FLOWERS.—Few pursuits connected with gardening possess more real interest than the raising of seedling flowers. It is an interest which never flags, for no sooner has one "batch" done flowering than preparation is made for sowing the seed of another. Notwithstanding the improvement which art and ingenuity have effected with respect to the Calceolaria, there is still an ample field left for the employment of the amateur's leisure hours, and for the exercise of his skill. I would recommend those who intend to pursue this subject to avail themselves of the improvements already effected by hybridising, more especially as regards form and distinct colouring, and, above all, select those which are of robust habit. Cross-breeding frequently induces constitutional debility, and to save seed from weakly plants would only be perpetuating one of the greatest evils attending the raising of new Calceolarias.

When the flowers begin to expand, take two plants, for example, of distinct colours; and in order that the cross may be as perfect as possible, place them under a hand-glass, so as to prevent them from being fertilised by bees or other insects, or place them in a frame or pit by themselves, where air can be given, and with a small hair pencil distribute the pollen of the one variety carefully over the stigma of the other, and *vice versa*. In order to obtain as perfect a breed as circumstances will admit, it will be much better to breed from a few pairs in this way than to raise a miscellaneous chance mixture, because it will be a source of more interest to the amateur, and because a very small portion of seed will prove ample for his purpose.

When the seed is ripe, which will be readily known by the cracking of the capsules, let it be carefully looked after, and as soon as the whole is collected, the plants may be kept in a growing state, in order that the young shoots may lengthen 2 or 3 inches, when they may be layered precisely

as Carnations are; when perfectly rooted, let the layers be potted into 3 or 4-inch pots, in which they may be housed for the winter. The best kinds should, of course, only be propagated, as room must be reserved for the seedlings.

The seed should be sown in the beginning of October, and when just sufficiently above the soil, the young seedlings should be pricked off into 6-inch pots, as they are exceedingly apt to damp off if permitted to remain in the seed pans. These will be quite advanced enough to be potted into 4-inch pots, in which they will establish themselves before winter; I have on some occasions sown the seed as late as January, and obtained a good bloom the following summer. The seeds, which are sown in autumn in pans, instead of being baked in a hothouse or greenhouse, should be placed under a north wall; and, if the weather is wet, a hand-glass should be suspended over the pans, and provisions made to prevent slugs or other insects from attacking them.—*Gardeners' Chronicle*.

.....

DESTRUCTION OF ANTS.—I have suffered much trouble and inconvenience by being visited with these pests in my underground apartments, and I have tried many remedies, such as tobacco water, poisoned sweets, as honey, &c., but all without success. I then directed my attacks to the outside of the house. I dug a trench the whole length of the wall; I then poured a good supply of hot water into the trench, which completely saturated the earth, and might have destroyed some of my little enemies; still I do not think that leaving them at this stage would have completed the business. I procured an iron rod, and the earth being softened by the water, I forced the rod 3 or 4 feet through the bottom of the trench, and thus pierced holes all along the house, and by these means probed to the foundation. I then obtained from the gas-works a quantity of water which had been used in their purifying process. I poured this into the holes I had made, and in filling up the trench, I well mixed the gas-tar water with the mould. I soon found the numerous army was retreating. Still, for a few days, I thought I had not succeeded, as the number appeared to have increased; the colony, however, bore the appearance of confusion; the numbers afterwards daily decreased, and now I am quite rid of my foes. They consisted of the black or very dark kind of ant. *Ib.*

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PRESERVING FRUIT.—Perhaps some of your readers may be desirous of trying the following method (which I believe to be the best yet invented) of preserving small fruits: to every quart of fruit add 6 ozs. of moist sugar, bottle in wide-mouthed bottles in the usual way; place the bottles in a cauldron of cold water over the fire; when it boils keep it boiling for 20 minutes; remove the cauldron from the fire, and cork the

bottles very closely, immediately tying them over with bladder; but as this operation is not easy to perform without removing the bottles from the water, it is essential that it be done as rapidly as possible, and the bottles returned to the cauldron there to remain till the water becomes cold. Care must be taken not to expose the hot bottles to currents of cold air, nor to place them on cold surfaces, during the operation of corking, &c.; perhaps a doubled flannel, dipped in hot water, would be as good as anything else to place the bottles on. The lady from whom I received this receipt, ties her bottles down with double bladders, without corks, before placing them in the water; but I think the method I have described is preferable, as from the expansion of the contained air, by the heat in boiling, occasionally the bladders, and also the bottles, burst; and moreover the air cannot be so perfectly expelled, on which very much depends. By the usual methods of bottling much of the peculiar flavour of the green Gooseberry is lost, which by this way is preserved. I partook, two or three weeks ago, of some Gooseberries preserved in this way, in 1848, and they were perfectly good, and retained the young flavour admirably. Rhubarb ent ready for tarts, and preserved in this way, will be excellent. My informant preserves Plums, and the smaller fruits, Currants, Raspberries, Strawberries and Berberries, by placing them in a deep dish, stratified with the same proportion of sugar, and placing them in a moderate oven; when sufficiently done, she transfers them into hot jars, as quickly as possible, and secures them immediately with double bladder. *Ib.*

LONDON GUANO.—I visited the guano hill last week, and on my way met the Bermondsey waggon walking slowly towards town. It was the first time I had seen it walking; it appears that it does not trot until it comes near a village. As it passed me it smelt strongly of real guano, and it occurred to me that the bags must be dusted inside and out with the genuine article, in order to give the loam the "right flavour," reminding me of the practice of putting British brandy into French brandy casks. As soon as I had arrived at the steepest part of this "loam-guano hill" a post-master not far off passed a high compliment on the knowledge of an old Scotch bailiff. "Mr. J.," said he, "where can I purchase the best guano?" "Why, don't you know?—on the hill, to be sure." "There is no guano there." "Why," says Mr. J., "I see it passing every day;" and at that moment "the waggon" came by on its way to Mark-lane. A few houses and a small public-house occupy the left side of the hill; a newly made road, nearly opposite, winds round the north end, and is lost to view about 70 yards from the road, and in a few yards more the lane turns sharp round to the left into the bosom of the hill. It was of no use ma-

king any inquiry amongst the peasantry here; every one is making money out of the hill (the publican more than anybody,) and therefore they keep quiet. I peeped into the premises, which consist of a nice cottage, with two brick-built and well roofed sheds, about 30 feet long each. The bank of loam is about 15 feet deep, and although they have sent off many hundred tons they have not gone more than from 40 to 50 feet into the hill, and the same in breadth. It appears to be very solid and very dry, so that the further drying it on the hot plates occupies but little time; any one could get this loam a year ago for 3s. 6d. a single cart-load, and 7s. for a double cart-load, but now they do not want to see a stranger there at all. I was told that Mr. So-and-So was very poor 12 months ago, but now he is rich, and keeps his horse and chaise, many weeks obtaining 50l. for what costs him little in its manufacture. It is reported that he is very liberal to certain gentlemen, whose duty it is "to look about;" half-a-crown now and then makes them inform inquirers that this extraordinary stuff all goes abroad. Some is sent to a railway station about a mile off; some to Chelsea or Pimlico, some to Bermondsey, &c. I am afraid I shall be thought remiss for not seeing the works that were going on; but I remembered the story of the Highland quager and illicit still, "Did anybody see you come in?" "No." "Then (drawing his dirk) I am d—d if anybody will see you gang ut." If gardeners will continue to purchase guano of any one, except agents duly authorised by the importers, they must expect to pay through the nose for that which they have already too much of. *Dulwich, May 20. Ib.*

TRANSMUTATION OF SPECIES.—To some of the readers of the *Gardeners' Chronicle*, who may feel interested in this marvellous doctrine, the following remarks will probably be acceptable. They are taken from a little work, by Professor Whewell, entitled "*Indications of the Creator*," and evidently designed as a reply to the startling views propounded some years ago in "*Vestiges of the Natural History of Creation*." To the questions, "In what manner do species which were not, begin to be?" and "How we are to recognise the species which were originally created distinct?" Dr. Whewell observes, "the most remarkable point in the attempts to answer these and the like is the controversy between the advocates and opponents of the doctrine of the transmutation of species. This question is, even from its physiological import, one of great interest; and the interest is much enhanced by our geological researches, which again bring the question before us in a startling form, and on a gigantic scale. We shall, therefore, briefly state the point at issue. We see that animals and plants may, by the influence of breeding, and of external agents operating upon their constitution, be greatly modified, so as to give rise to varieties and races different from what before existed.

How different, for instance, is one kind and breed of dog from another! The question then is, whether organised beings can by the mere working of external causes, pass from one type of one species to that of another? Whether the ourang-outang may, by the power of external circumstances be brought within the circle of the human species? And the dilemma in which we are placed is this: that if species are not thus interchangeable, we must suppose the fluctuations of which each species is capable, and which are apparently indefinite, to be bounded by rigorous limits; whereas, if we allow such a transmutation of species, we abandon that belief in the adaptation of the structure of every creature to its destined mode of being, which not only most persons would give up with repugnance, but which has constantly and irresistibly impressed itself on the minds of the best naturalists as the true view of the order of the world. The question of the limited or unlimited extent of the modifications of animals and plants has received full and careful consideration from eminent physiologists; and in their opinions we find an indisputable preponderance to that decision which rejects the transmutation of species, and which accepts the former side of the dilemma; namely, that the changes of which each species is susceptible, though difficult to define in words, are limited in fact. It may be considered, then, as determined by the overbalance of physiological authority, that there is a capacity in all species to accommodate themselves, to a certain extent, to a change of external circumstances; this extent varying greatly according to the species. There may thus arise changes of appearance or structure, and some of these changes are transmissible to the offspring; but the mutations thus superinduced are governed by constant laws, and confined within certain limits. Indefinite divergence from the original type is not possible, and the extreme limit of possible variation may usually be reached in a short period of time; in short, species have a real existence in nature, and a transmutation from one to another does not exist." *Ib.*

MORAL INFLUENCE OF GARDENING.—If there were any doubt as to the influence of gardening on the minds and general habits of the working classes, the simple fact, that the clergy of all denominations are foremost in the ranks of its patrons and promoters, should convince us of its beneficial tendency; but a transitory glance at the inmates of a cottage where the garden is neatly cultivated, is enough to show that the concomitants of industry—comfort and prudence—reign over the affairs of the place. In a work, which we hardly recollect the subject of, there was almost a sermon comprised in a single sentence. It is strongly impressed on our memory, and is pertinent to the matter here. The author says:—"Gardening

is the most rational of all recreations. It teaches forethought, industry, and economy of time. It exerts the mind, invigorates the frame, and constantly reminds us of the great God whose hand is imprinted on every leaf, and who, in his bountiful goodness, rewards us with the fruits of the earth. To teach the cottager to manage his garden, is to lead him to happiness. To induce the higher classes to love flowers, is to find them innocent gratification, and provide employment for thousands." There is truth in every word of this. "Gardening is the most rational of all recreations." It is healthful, and every hour expended in it as an occupation is rewarded by the effect of it on the crops. The industry bestowed on a garden is always profitable, and the profit sweetens labour. It is a sorry thing to contemplate the hours that are wasted by the laboring classes in those places where there are no gardens, and it is scarcely to be helped. What is a man to do when he leaves his work? It is not to be supposed that he can sit down quietly for hours; yet what can he occupy his mind with? He may while away some of the time with reading; but reading, notwithstanding cheap literature, is expensive. He seeks in society the amusement which he cannot find alone, and society can only be found at the public house; then there is a double evil, because, besides the waste of precious hours, there is a necessary expenditure; or, perhaps, he resorts to the skittle-ground, the bagatelle table, or other gambling amusements, in which case the loss to his family is far more serious. Man is a social animal, and unless he has occupation, he gets into mischief. It is almost certain that a man without a garden goes to the public house; and he cannot do so without spending money, which would be useful on his children's back, or in the purchase of household comforts. Many an industrious man, unused to tipping, has been totally ruined by his leisure; and it is much to be regretted that there are no means of profitably employing the interval between business and bed time. If a man has his garden, he blends amusement with labour, and profit with both. Gardening teaches forethought, because all the operations are performed with a view to the future. We sow because we desire to reap. We plan all our affairs with regard to some ulterior, not a present result; and this gives us a habit of thinking and of calculation. A piece of ground is no sooner cleared of its crop than we begin to consider what is the best thing to occupy it with, and how soon it will be vacant again. Gardening exalts the mind; of this fact there can be no doubt. Every leaf and flower proclaims the wisdom and goodness of the Almighty. The man who can watch the progress of vegetation, and the effects of the seasons, without being impressed with a proper

notion of his Maker's bounty, must be insensible to everything. Gardening invigorates the frame. There is hardly an exercise so healthful; the whole body is in motion in the different operations. The digging, hoeing and weeding, keep all the muscles in play; and it is admitted by all, that the smell of the newly turned earth is congenial to health; a fact proved also by the longevity and hearty lives of the agricultural labourers. The man who loves his garden, wants no other amusement, and instead of wasting his substance in the very natural pursuit of occupation for his mind among companions similarly situated, he finds every shilling in his pocket, and the economy of his household greatly assisted by the crops in his garden; independently of which, there is downright enjoyment, in every sense of the word, from the time the ground is dug to the period of reaping the fruit. The clergy have seen this, and are, therefore, warm patrons of the science. They have seen, with great satisfaction, that to give a man a garden is to give him profitable occupation for his leisure hours, and keep him out of mischief; and they have always been foremost in the promotion of Horticultural Societies and allotments of land to the poor. It is gratifying to see the change that has been made in whole towns and villages by the establishment of Horticultural Societies and the encouragement of cottage gardening. It is also incredible to witness the improvement that a few allotments have made, and it is much to be regretted that there are not means taken to increase the number of gardens—for there are very few things contribute so much to the changing of idlers and drunkards into useful members of society, as the means they afford of profitably engaging their leisure time. *Hort. Mag.*

PLANTS AND GARDENS OF THE ENGLISH AT SHANGHAI IN CHINA.—The gardens of the English residents in Shanghai far excel those of the Chinese in the number of species of trees and shrubs they contain, and also in the neat and tasteful manner in which they are laid out and arranged. In 1845 only one or two small English houses had been built, and no gardens had been formed; but now a large English town has risen on the banks of the river, and almost every house is surrounded by a garden.

The late Mr. Hetherington was the first to attempt rearing vegetables on a large scale. He introduced Asparagus, which now succeeds admirably at Shanghai, Rhubarb, Seakale, and all the vegetables common in English gardens. He also raised the Strawberry from some seeds I sent him in 1846; but, curious enough, although it grows luxuriantly, it scarcely bears any fruit. The blossoms appear to go blind soon after they expand. I have no doubt, however, that some method will soon be devised to overcome this habit, and I ex-

pect to see Strawberries produced in great abundance and in perfection in Shanghai. The ground about the town is too low and wet for the growth of the Potato, and hence no one has succeeded in rearing what would be called a good crop of this desirable vegetable. In the course of time, however, when the cultivation is attempted in the higher parts of the country, we may expect to get better Potatoes here than at Macao, although the latter are usually most excellent.* Mr. Hetherington fell a victim to a fever of a very fatal kind, which prevailed in the autumn of 1848. He was a true specimen of the old English gentleman, and was deeply regretted by all who had the pleasure of knowing him.

The English Consul, Mr. Alcock, has also a good vegetable garden on the grounds attached to the consulate. There is a noble plant of the *Glycine sinensis* in this garden, which flowers most profusely, and becomes covered with its long legumes or pea-like fruit, which it ripens to perfection.

The two first ornamental gardens are those of Mr. Beale and the Messrs. Mackenzie. Mr. Beale's house—a fine square building of two stories—is placed in the centre of the garden. In front is a fine grass lawn, which extends from the house to the boundary wall near the river. Behind the house there is another lawn surrounded with a dwarf ornamental wall. A wide gravel walk leading from the entrance to the back part of the garden divides the house from the business part of the premises. This garden is rich in plants indigenous to China, and also contains many which have been introduced from other parts of the world. On entering the gate the first thing which strikes a botanist is a fine specimen of the new Funclral Cypress nearly six feet high, and just beginning to show its beautiful weeping habit. This has been obtained from the interior, and does not grow in the neighborhood of Shanghai. Mr. Beale intends to plant another specimen on the opposite side of the gate, and when the two grow up, a very striking and pretty effect will be produced. In the same border there are fine specimens of *Weigela rosea*, *Forsythia viridissima*, *Chimonanthus*, *Moutans*, *Lagerstromias*, *Roses*, &c., and nearly all the new plants sent home to the Horticultural Society from 1843 to 1846. In this part of the garden there is also a nice plant of the new *Berberis japonica*, lately obtained from the interior and described in my last letter.

The American *Magnolia grandiflora* has been introduced here, and promises to be a very ornamental tree; its fine green leaves and noble flowers are much admired by the northern Chinese. Several plants of *Cryptomeria japonica* are suc-

ceeding admirably, and will soon be much more beautiful than any the Chinese have in this part of the country. The garden has been raised with a large quantity of fresh soil considerably above the level of the surrounding ground, so that all the family of the Pines succeed much better than in those places where they are usually planted by the Chinese; besides the latter generally spoil all their trees belonging to this family by lopping off the lower branches for firewood.

Large quantities of the *Olea fragrans*—the Qui Wha of the Chinese—are planted in different parts of the garden. These succeed much better here than in the south of China. In the autumn when they are in bloom, the air is perfumed with the most delicious fragrance. Another most fragrant plant is the new *Gardenia* (*G. Fortuniana*), now common in English gardens, to which it was introduced by the Horticultural Society in 1845. In Mr. Beale's garden many of the bushes of this charming species are 10 or 12 feet in circumference, and in the season are covered with large double white flowers, as large as a white *Camellia*, and highly fragrant. Altogether this is a most interesting garden, and promises to be to Shanghai what the well-known one of Mr. Beale's father was to Macao.

The Messrs. Mackenzie's garden here is also well worthy of notice. It resembles some of the neat suburban residences near London. The shrubs are arranged with great taste in groups and single specimens on the lawn, and consist of all the species and varieties common in this part of China. The collection of *Azaleas* is particularly fine. During the summer time, when these plants are in bloom, they are placed on a stage, and protected from the sun and rain. They flower in great profusion; the individual flowers are larger, and the colours are more brilliant than they are at home. Here, too, are gorgeous specimens of the new *Viburnums* (*V. plicatum* and *V. macrocephalum*) sent home to Chiswick in 1845. The first English Apple tree fruited in this garden about a year ago.

The gentlemen connected with the London Missionary Society have a village of their own about a quarter of a mile back from the English town. Each house has a nice garden in front of it, full of interesting Chinese shrubs and trees. Dr. Lockhart has the finest collection.

These short statements are sufficient to show your readers what has been done since the last Chinese war. Chinese plants have not only been introduced to Europe and America, to enliven and beautify our parks and gardens, but we have also enriched those of the Celestial Empire with the productions of the west. Nothing, I believe, can give the Chinese a higher idea of our civilization and attainments than our love for flowers, or tend more to create a kindly feeling between us and them. *R. Fortune, in Gard. Chronicle*

* I have made a great many inquiries about the Potato disease in China, but it does not seem to have made its appearance. The Macao Potatoes have always been good and sound. *R. F.*



AMERICAN POMOLOGICAL CONGRESS.—In conformity with the Resolutions passed at the last session of this National Institution, its next meeting will be held in the city of Cincinnati, Ohio, on the 11th, 12th, and 13th days of September next, A. D. 1850.

The Ohio State Board of Agriculture, and the Cincinnati Horticultural Society will also hold their Annual Exhibitions at the same time and place, and the latter has generously offered to provide for the accommodation of the Congress.

All *Agricultural, Horticultural, Pomological, and kindred societies* in the United States and the Canadas, are hereby respectfully invited to send such number of Delegates as they may deem expedient.

In order to facilitate the objects of the Association, to promote Pomology and the sciences upon which it depends, to collect and diffuse a knowledge of researches and discoveries in this important department, delegates are requested to bring with them specimens of the fruits of their respective districts, with lists of the same, and also papers descriptive of their art of cultivation, of diseases and insects injurious to vegetation, of remedies for the same, and whatever will add to the interest and utility of the Convention.

Packages of Fruit not accompanied by its proprietor, may be addressed to the care of Messrs. JOHN F. DAIR & Co. Lower Market Street, Cincinnati, O. These should be very distinctly marked "FOR THE AMERICAN POMOLOGICAL CONGRESS."

All Societies to be represented in this Congress, will please forward certificates of the election of their several Delegations, to J. B. RUSSELL, Esq., Corresponding Secretary of the Cincinnati Horticultural Society. Delegates will also report themselves at the BURNET HOUSE, on the morning of the 11th, where a Committee will be in attendance to take charge of their Fruits, and from whence the Congress will proceed to the Hall assigned for its meetings. MARSHALL P. WILDER, *President*. S. B. PARSONS, P. BARRY, and GEORGE W. DEACON, *Secretaries*. July 4, 1850.

VINERIES.—I last fall constructed a small house as a cold vinery, and wish to inquire

whether there are any advantages in white-washing the inside of the glass? I have noticed that with some green-houses this is done in summer. I am induced to make the inquiry as my vines seem to suffer from the heat of a bright sun. I wish also to inquire of whom I can procure the Diana grape for fall transplanting. C. P. WILLIAMS. Albany, 3d July, 1850.

No ordinary amount of light or sun will injure a grape vine, provided there is moisture and food enough at the roots and ventilation enough above the leaves. Your vines probably suffer from the want of one or the other of these needful things. The Diana grape will no doubt be advertised by various nurserymen this fall. ED.

STRAWBERRIES, &c.—Sir: I am a constant reader of the Horticulturist, and have been highly gratified with it from the beginning. The subject which is my favorite, is the strawberry, which I have made a matter of study. I have fruited about ten varieties in my garden this summer, and some of them fully equalled my expectations. Among the best are "British Queen," (I think the genuine,) Hovey's Seedling, Burr's New Pine, Black Prince, Burr's Rival Hudson, and Columbus. *All things considered*, I prefer Myatt's British Queen. It is equal in beauty and flavor with Hovey's Seedling or Boston Pine, and more hardy, and I think rather *more prolific* than H.'s Seedling. In your "Fruits and F. Trees," you are fearful that the British Queen will prove tender. I do not find it so; but I cover them with coarse manure or forest leaves in early winter. Strawberries in general suffer nothing in winter, except by alternate thawing and freezing in March, by which the roots are loosened and laid bare. I am not a dealer in plants, and what few will set in my margin are spoken for. I obtained a half dozen (B. Queen) two years ago in September, of Dr. Voorhies, of New Rochelle. I think your correspondent in Poughkeepsie may get some from him, who told me he had them of W. R. Prince, and has cultivated them three or four years. By the way, I happened to be lingering in New-York, in October last, and took a trip to Flushing,

for pastime. I asked the gardener to show me Myatt's B. Queen. He looked over the grounds and could find none. He then went to the catalogue, and found it marked in a way which signified that it was discarded. I inquired why? He said it was not prolific. Mr. Thomas, in the F. Cultivist, also puts it *below par*. I do not hold it thus. If not the *best*, it is a *good bearer*. It is worth while, however, to pass along in fruit time, and if some plants be found without fruit, to pull them out forthwith; that no runners may put out to mock our future expectations. This species needs as good cultivation as Hovey's Seedling or any other. Of the New Pine, I think the plants we get from Rochester are genuine; they have blossoms truly pistillate. Some of my neighbors will have only one variety in the same bed, but I think differently. The strawberry family are "Socialists," and if not "Red Republicans," some of them are *very red*.

One of our citizens, Capt. D., has a plantation which has attracted much attention, and raised the "strawberry fever" unusually high; six or seven such will compete with it next year. He had eight varieties, and among these the Black Prince and Boston Pine excelled. They were in all respects excellent. The New Pine also recommended itself, and promises to be a *very early* variety. The Scarlet is scarcely early enough to fertilize the blossoms of the Pine.

I have observed what you say of the pear, Frederick de Wurtemberg, in your "Fruits and F. Trees," that "the stock seems to be stunted." Two years ago in April, I bought a three year old tree of Mr. Verplanck, our nurseryman. The first year it remained stationary, or nearly so; the second, it grew about one inch in the several limbs which are, I think, only four in number. But this year two limbs have put forth twenty inches. It now bears fine, beautiful pears. Three were stung by the curculio; I immediately put in the point of my knife, and poured in whitewash, and I suppose the insect was killed. My plums are almost all gone. I fought against the insect with lime and musquito netting, but in vain. The enemy is more formidable than I was aware of; and now, as I have amused myself in this desultory sketch, I will trouble you no farther. I can prepare nothing of much practical utility for the public eye, but am happy to say that Horticulture is a favorite amusement with some of us in Geneva. *A. Messer. Geneva, (Ont. co.), July 12, 1850.*

ALBANY AND RENSSELAER HORTICULTURAL SOCIETY.—At the meeting of this society on the 10th of July, there was a good exhibition of cherries, raspberries, currants and gooseberries.

CHERRIES.—The premium for the best variety, was awarded to E. C. Aiken, of Greenbush, for Black Tartarian; for the best *two* varieties, to Dr. A. Mareh, Albany, for Black Tartarian and Tradescant's Black Heart; for the best and most extensive collection, to Henry Vail, Troy; second best to Dr. Herman Wendell, Albany.

GOOSEBERRIES.—For the best and finest flavored variety, the premium was awarded to Henry Vail, for Compton's Sheba Queen; also to the same for the second best variety, Lady of the Manor; for the best and most extensive collection, to James Wilson, Albany, who showed thirty-three varieties.

RASPBERRIES.—For the best and finest flavored variety, premium to Henry Vail, for the Fastoff; for the second best to John S. Goold, Albany, Red Antwerp; for the best and most extensive collection, to Henry Vail.

CURRENTS.—For the best and finest flavored variety, premium awarded to James Wilson, for Knight's Sweet Red; for the second best to Henry Vail, for the White Grape; for the best and most extensive collection, premium to Henry Vail.

A handsome display of plants and flowers was made by Messrs. D. T. Vail, Troy, Newcomb, of Pittstown, Douw, of Greenbush, and Messrs. Wilson, Wendell, Goold, McIntosh, Corning, Dingwall and others, of Albany.

OSWEGO HORT. SOCIETY.—I send you by this mail, a paper giving a partial view of the doings of our infant Horticultural Society in this city. We received about \$100 for fruits, bouquets and Floral Designs, donated to the society by the contributors, and \$40 at the door, from those not members—\$140. This is a pretty fair beginning in a city excelling all others in *flour*, and but few heretofore in flowers, or "the flower of commodities." Our present number of members is near three hundred. Respectfully yours, *J. W. P. Allen, Cor. Sec. of Oswego H. Society. July 13, 1850.*

The paper alluded to in the above has not come to hand.

SEEDLING PEACHES.—The enclosed slip I cut from the Cleveland Democrat, and forward it to you for the purpose of inquiring whether it be true that one sort of peaches, say the Early York for instance, can be so managed as to ripen from August to November, as stated in the slip. I doubt the statement, but, if true, would be glad to have it confirmed by your experience—an answer in the Horticulturist, to which I am a subscriber from its commencement will oblige, *Lewis Handerson. Cleveland, June 10, 1850.*

A correspondent of the Cultivator, Mr. Craighead, of Whitehall, in Cumberland county, Pennsylvania, gives the following account of his success in raising seedling peaches, both early

and late, of some known and favorite varieties: "Seven years ago, I went to Mr. Conklin's extensive peach orchard about the 20th September, and bought two bushels on purpose to get the seeds. We sought the very best we could find; his early peaches were nearly gone; I took the last on the trees. That brought the ripening of them to the period I picked the peaches off 20 days later. The Columbia was just beginning to ripen. I got the first ripe. That brought them two weeks earlier than the original. I planted the stones in rows, like planting potatoes, only covered shallow, following nature as near as I could. All brought the same sort in color and appearance. The result is, I have the Morris White through the season; the Columbia and Early York also, so that the whole space is now filled with the same species from last of August to 20th October, and any farmer, if he has one superior peach tree, can raise seedlings from it, and change to early and late, to last the whole season. But plant the stones when fresh, if you expect to raise a good tree, for if they become dry, you will get a poor peach, something resembling the original, but worthless. My seedlings, out of about 500 trees, which I planted seven years ago, contain only about four trees that are not as good, and many much better than the original."

REMARKS.—This story is told in a liberal way, and though there are instances in new soils of a large proportion of seedlings proving excellent, the result is usually the other way, *i. e.* 4 fine sorts to 456 indifferent ones. It is quite true that by saving the seeds of the earliest or latest fruits, the probability of obtaining early or late varieties is rendered almost a certainty. This, indeed, is the method so successfully pursued by originators of new early vegetables. ED.

BRITISH QUEEN STRAWBERRY.—To "B., Poughkeepsie."—We have the "British Queen" Strawberry. Price \$2 per hundred plants, packed and forwarded from New-York in the manner directed. *Winter & Co. Flushing, L. I., July 15, 1850.*

MYATT'S BRITISH QUEEN STRAWBERRY.—We have a small bed of the above named from which we should be glad to furnish "B." or any other person, good runners at \$1 per dozen.

This is the largest berry we raise, some single specimens having measured seven inches in circumference. Its flavor is very fine, in the opinion of many persons far surpassing that of any other.

But it is a very *shy* bearer, six being about the average number of berries on a hill. It is also very tender and most of the runners die in the winter, even with the best protection.

We cultivate it by the side of twenty-five other varieties, and think we give it a fair trial. *Bissell & Hooker. Rochester, N. Y.*

SALE OF SHORT-HORNS.—We earnestly hope that our country gentlemen who wish to embellish their farms, parks, or lawns with beautiful cattle and sheep, will direct their attention to the splendid animals belonging to Mr. Sheafe, at High Cliff, near New-Hamburg, Dutchess county, which are to be sold on Thursday, the 29th of this month (August.) As ornaments to the grounds of a mansion, nothing can add more beauty, grace, or value than fine animals; and without them, such grounds are incomplete in all these requisites.

Mr. Sheafe himself is an amateur in farming, and stock-breeding, and has spared neither pains nor expense to obtain a fine stock; and intending to spend a few years in Europe, where he now is, offers his stock for sale. No better opportunity will soon be presented for either country gentlemen or practical farmers to obtain fine Short-horn cattle, or South-down Sheep than is here opened.

BURR'S NEW PINE STRAWBERRY.—As the lovers of good fruits are all interested in having the new kinds which are highly recommended, tested as to their flavor, productiveness, and good qualities for general cultivation, I will give you the results of my experience in the cultivation of *Burr's New Pine Strawberry*, for the last two seasons, in the latitude of Hartford, Conn. I had but a few plants in April 1849, but by taking special care, they produced plants sufficient to make a large bed in 1850. They have been remarkably productive, generally averaging fifteen strawberries to each fruit stalk, and of large size, though not so large as Hovey's seedling. In flavor they were delicious, and decidedly superior to any Strawberry I have ever cultivated, though I have eighteen or twenty different kinds of the choicest. My plants were covered during the winter with a little straw, not because I deemed it necessary, but to be on the safe side, and none of them were injured by the cold. *A Connecticut Subscriber.*

STRIPED BUGS ON MELONS, CUCUMBERS, &c.—I hear great complaints of the destruction of vines by the striped bug, and have frequently suffered in the same way, and have tried numerous methods recommended from different sources, but the only *effectual remedy under all circumstances*, is the following—Take 4 pieces of boards about 2 feet long and 7 to 10 in width, nail the ends together and put around the hill of vines, and no striped bug will ever be found inside (if not there when the box is put on.) Three or four short boards put around the hill and kept there with wooden pins will answer the purpose equally well. This season the bugs had destroyed more than half my vines before I put my boxes on. I then planted the vacant hills inside the boxes; not a bug came on the vines after that, until I supposed the young vines (last planted) were strong enough

to defy the bug, when I removed the boxes, and they were immediately attacked again, and I was obliged to replace the boxes. I have tried this for several years, and can safely recommend it as a perfect protection.

In this section onions are suffering from maggots or a small white worm that is found in the bulb of the young onion which destroys them. We have been troubled in this way for the last three years. Can any of your subscribers tell us of a remedy.
John W. Bailey. Plattsburgh, July 11th, 1850.

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THE STORM OF JULY 5TH.—The atmosphere gave but slight indications of rain until five o'clock P. M., when a dark cloud arose slowly from the N. W., attended with thunder. After rising something like 30° , the progress of this cloud seemed to be to the north and east, until it spread over the northern sky to about 20° of the zenith. In this position, and at about 8 o'clock, it began to appear somewhat broken by seams, running from east to west and from N. W. to S. E. During the time this cloud was gathering, and extending itself over the northern sky, another rose in the west, and for a while passed south, mainly hanging south and west. From this cloud brilliant sheets of lightning were issuing, and passing southwesterly from $7\frac{1}{2}$ o'clock until the clouds united at $\frac{1}{2}$ past nine, while, during the interval, occasional chains of the fluid, with almost frightful glare, passed off in the same direction.

At eight o'clock, it was evident that these two clouds were making a proximity, and their union, it was presaged, would result in a powerful storm. As they approached, the voice of the thunder was less frequent than when the clouds first issued from their birthplace in the western sky; but the lightning in the north, like that in the south, was vivid and grand beyond our description. Broad sheets following each other from east to west, in so rapid succession as to keep the sky and the earth illuminated, with an occasional chain,—glowing with the heat of a furnace,—describing the serpent's crooked path, and spitting fire in its rapid descent, passed off to the north of the valley, as if to vent its spite on the rugged hills that surround it.

A few minutes after nine, a breeze sprung up from the northwest, which brought the clouds to a speedy union. And as the nuptials of the storm were celebrating in mid-heaven, the lamps which had illuminated the pathway of the moving clouds, one after another rapidly went out, and then, the thunder spake the nuptial ceremony with sublime and fearful voice, rolling in its majesty from south to north through the whole extent of the thickly veiled canopy. Alternate flashes preceded each impressive sentence, with light so brilliant that, at one moment, every object of earth, within range of vision, was as visible as though the full glare of the noonday sun-beam fell upon them, and the next they were shrouded in darkness so deep

that no mortal eye could penetrate it. The wind had passed away, and all was settled into the calm of a summer evening now, when these fireworks of the skies, which threw so contemptibly into the shade all efforts of imitation which human invention had designed, and human industry executed only one brief day before, to the astonishment and admiration of wondering multitudes, were giving their most noble and impressive interpieces. Ah, how frail is man, in his most mighty creations, and how deficient is art, in her most noble triumphs, when placed in comparison with nature, drawn out by nature's God! The evening previous, thousands had left their quiet homes, to mingle in the inconveniences of the crowd, to see the short lived rocket shoot through the air, and witness other feats of art, both beautiful and brilliant. But who saw these illuminate the mountain, spread out the landscape in all the perfection of noonday, and reveal the colour of the sleeping flower, as nature did when the storm was hanging over it? And what was that cannon's booming, momentary voice, compared with the hoarse angry roar of the thunder, as it went bellying through the sky? Yet, of the thousands who went away to witness the one, how few saw anything but gloom, and sadness, and fear in the other, while in the safety and quiet of their own homes. Oh, how long will the propensities of mortals be such that the inferior, dear-bought, and far fetched, will be preferred to the sublime, the beautiful, and home-born, that lie strewn around their every-day paths!

But to the storm. As may be supposed, so dark a cloud, and so much lightning, and considerable thunder, could not pass away without some rain. When we saw the two clouds approaching each other, and making a gathering point over us, we anticipated a deluge. Nor in this were we mistaken. It began to rain slightly about 9 o'clock, but soon ceased, to commence in earnest at half past ten, and continue until four the next morning—the most of the time falling in torrents, which deluged the fields, raised the streams to overflowing, and washed the roads to an extent which has not been before witnessed for years; and all this without much effect in cooling or purifying the atmosphere. Yours truly, *W. Bacon. Richmond, Mass., July, 1850.*

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A VISIT TO THE COUNTRY SEAT OF J. W. WHITNEY, ESQ.—His country establishment is situated three miles north of the city of Rochester, on the Rochester and Charlotte plank road, leading to Lake Ontario and the mouth of the Genesee river.

It was the season for cherries and strawberries, and we found rich collections of both, including all the newest varieties. Mr W. has turned his attention to the cultivation of fruits on an extensive scale. His peach orchard covers many acres. The trees appear luxuriant and fruitful. He has

all the popular sorts, which ripen in succession. His apple orchards are, likewise, extensive. One young orchard, planted from root-grafted and budded trees, principally of rootlet keeping sorts. A second orchard,—an old one, headed down, and top-grafted with such sorts as the Melon, Spy, Bourrasa, St. Lawrence, Early and Late Strawberry, Yellow Bellflower, Ribston Pippin, Pomme Gris, Fameuse, &c.—all promising magnificent heads, having been last year judiciously pruned, which put them at once into fruit-bearing spurs.

The collection of pears here is of rare and choice sorts, and the trees are making a thrifty, short-jointed growth, which is the shield against blight, canker, or cracked bark. The soil would be by some nurserymen considered too light for the well doing of this delicious fruit; still there is no indication of a want of those elements, which constitute a good pear soil.

The large share of attention devoted to fruits here, occasions no neglect of the ornamental grounds; for the collection is enriched with every new and fine tree, plant, and shrub, as soon as it can be pronounced to be an acquisition. We found here the following specimens: *Cedrus Libanii*, *Cedrus deodara*, *Abies excelsa*, *Abies americana alba*, *Abies americana nigra*, *Picea balsamea*, *Pinus sylvestris*, *Pinus pinaster*, *Thuja occidentalis*, *Juniperus virginiana*, *Paulownia imperialis*, *Salisburia adidentifolia*, *Magnolia macrophyllum*, *Taxus hibernicus*, *Taxus boccata*, and many others too numerous to mention, besides a large collection of choice shrubs, herbaceous plants, Hyacinths and Tulips.

Mr. W. has commenced making *Pyrus japonica* and English Yew hedges, and has the finest specimen of a privet hedge I have seen, running the whole length of the avenue leading to his gardener's cottage. It is cut square on top, and is four feet high, two feet broad, and a perfect mass of lively green the whole season. *C. J. Ryan. Greece, Monroe county, July 3, 1850.*

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CHESTER COUNTY (PA.) HORT. SOCIETY.—Pursuant to previous notice, the Chester County Horticultural Society held in its Hall, in West Chester, Pa., on the 14th and 15th days of June, a general exhibition of Horticultural productions, in connection with Manufactures, the Mechanic Arts, the Fine Arts, Fancy Work, &c.

The Hall of the Society was not as extensively decorated as it is at the autumnal exhibitions; yet there were sufficient floral ornaments, independent of specimens deposited, to render its appearance highly interesting.

The pyramids of flowers, the moss-covered vases, and baskets crowned with the richest treasures that Flora at this season dispenses with so liberal a hand, the sweet scented bouquets for the hand and the mantle, and the

rich, rare and interesting collection of roses, *Calceolarias*, *Torenia*s, *Fuschias*, and other ornamental plants of the garden and hot house, skilfully arranged along the tables that extended the length of the Hall, presented a most interesting and agreeable appearance to the eye, and loaded the air with a balmy fragrance.

The backwardness of the season prevented a very extensive exhibition of fruits and vegetables, yet on the tables were displayed some beautiful specimens of strawberries, cherries, grapes, peaches, nectarines, potatoes, peas, onions, beets and gooseberries, most of them grown in the open air, though some of them were the productions of the hot-house.

The committee regret to say that the manufacturers and mechanics of the county did not exhibit as great an interest in displaying the products of their skill and ingenuity as was desirable, yet such of them as did deposit specimens in the exhibition, sent them of materials and workmanship of the most creditable kind. In this department the display of a large assortment of carpets, of rich and beautiful patterns and excellent texture, was the most striking feature; and we are sure there were few present who had any idea that Chester county could produce an article so excellent in every essential quality as was to be found in the article alluded to. The coach and harness work, the agricultural implements, the marble work and other articles showed a high degree of skill and taste, and we are glad to learn that the exhibition was the means of bringing these branches of industry so prominently and favorably to the notice of our citizens, that several sales were made and orders given to the artificers for more of the products of their workmanship.

We have little doubt this branch will be properly represented at the next exhibition of the kind the society may hold.

The committee were well pleased to see a great many productions in the Fine Arts, embroidery, worsted work and fancy work, the fruits of the leisure hours of the artists who executed them. To the ladies, the exhibition is indebted for its chief charms. Their taste and skill contributed most of the Floral designs, and their contributions in silk, worsted, embroidery, paper flowers, &c., &c., added greatly to the interest of the occasion.

The lounges, chairs, ottomans, foot-stools, lamp screens, fire screens, table covers, coverlids, counterpanes, knitting, netting and other similar articles, wrought by their patience and industry, were beautiful in design, rich in coloring, and arranged and executed with great neatness and propriety, and to their liberal deposits in this department may be attributed a large share of the enjoyment realized by the visitors.

The committee also take pleasure in alluding here to a bust modelled in clay, one of the first attempts of a young gentleman of this county, that displays the presence of a rare talent in that most elevated and most difficult walk of the Fine Arts, and which only requires cultivation to render its possessor distinguished amongst the artists of the land.

A beautiful jet from the fountain in the centre of the Hall, falling into and overflowing its urn, served to keep the atmosphere of the room at a pleasant temperature, and the gentle music of the falling waters, mingled with sweet airs from some fine pianos, and the lively notes of several cage birds, served to add to the interest of the whole. *Report of Com. of Pub.*

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THE PRAIRIE ROSE—*ROSA RUBIFOLIA*.—This rose in its native state, grows wild over the whole western country, being very luxuriant in its growth, and covering the prairies, particularly in Ohio, Illinois, Indiana, Michigan, &c. &c. In Maryland, Pennsylvania and the western States, in fact wherever it is indigenous, it is known by the name of the Prairie Rose, and why it should be called Michigan Rose more than Ohio or Indiana Rose, I cannot see the propriety. Knowing the history of the double varieties of this rose, perhaps it may not be unacceptable at this time to your readers. Mrs. HANNAH LEVERING of Baltimore, Md., having removed to Lancaster, Ohio, forwarded seeds of the wild Prairie Rose to Mr. SAMUEL FEAST, an eminent florist of Baltimore, who planted the same, and after they had vegetated, permitted a few to climb over a bed of Noisette roses. The blossoms of the Prairie became (many of them) impregnated from the pollen of the Noisettes. The seeds from the Prairie roses were carefully gathered and planted, and from the many seedlings, the following new varieties were produced, all fine double roses:

1. **BEAUTY OR QUEEN OF PRAIRIES.**—Large beautiful deep pink, very double, exquisite form, frequently with a white stripe. This is the so called Double Michigan, prevalent in your city.

2. **PERPETUAL PINK.**—Pink, changing to purple, very double, flowers several times during the season, large clusters.

3. **BALTIMORE BELLE.**—Blooming in large clusters, full double, light blush, with a deeper centre. This rose possesses a valuable character, different from the other two, being as fragrant as a Tea rose. These are all vigorous climbers.

Since the above have been produced, Mr. JOSHUA PIERCE, of Washington city, D. C., procured a number of seeds of the single Prairie rose, and planted them with reference to a hedge, a portion of them growing contiguous to a number of rose bushes of the old Maidens' Blush, and running over them. Seeds of these were again taken and planted, and from many hundreds, he had the pleasure of sending out the following beautiful double climb-

ing roses, of the same character as the three above described, raised by Mr. FEAST, and vying with them in beauty, some even excelling them, and a number of them being quite fragrant:

1. **PRIDE OF WASHINGTON.**—Very dark rose, very fine form, cupped, full double, resembling Jane, blooms in clusters of about 20 flowers, habit vigorous and good.

2. **ANNA MARIA.**—Pink with rosy centre, cupped, and full double, beautiful large clusters 20 to 30 flowers, quite distinct from any of the others.

3. **EVA CORRINNE.**—Flowers large, very delicate blush, with beautiful carmine or rose centre, globular and very double, clusters medium size from 10 to 20 flowers, rather compact, foliage medium, habit vigorous and very erect. This is the most delicate of all the Prairie roses, and its clusters of blush flowers, with their deep centre, which are perfectly globular and quite fragrant, entitle it to a prominent place in every garden. It blooms quite late.

4. **MISS GUNNELL.**—Elegant delicate blush or buff, full double, clusters large, from 25 to 30, foliage large, habit vigorous, one of the very best, quite unique for the delicate tint of its flowers.

5. **RANUNCULIFLORA.**—Pale blush, very handsome, full double clusters large, 25 to 30 flowers, slightly fragrant, and blooms rather late.

6. **VIRGINIA LASS.**—Splendid blush, in large clusters, full double.

7. **MRS. HOVEY.**—Splendid white, very double and beautiful, large clusters, the only double white Prairie rose: the flowers of this variety are larger than all the rest, and decidedly the best of the 12 seedlings; it is of superb habit, with splendid deep green foliage, and as it is a pure white, it is the greatest acquisition which yet has been made to the double Prairies.

8. **JANE.**—Flowers medium size, of a beautiful lilac rose, imbricated and very double, clusters large and compact, 25 to 30 flowers, habit strong and vigorous.

9. **PRESIDENT.**—Blush with rosette in the middle, compact, and very double, 15 to 20 in a cluster—habit vigorous and good. This is the latest flowering variety.

10. **TRIUMPHANT.**—Deep brilliant rose, imbricated, very double and fine, clusters large, 20 to 30 flowers, foliage large and handsome, bright green, deeply and sharply serrated. This variety is remarkable for its ample and beautiful foliage, as well as its deep and brilliant rosy flowers.

11. **LINNÆAN HILL BEAUTY.**—Pale blush, very fine indeed, much admired—clusters large and full double.

12. **MRS. PIERCE.**—Not yet bloomed for us, and therefore cannot describe it. These 12 are Mr. Pierce's seedlings, and all very handsome. We have fine specimens of all on our grounds, and can exhibit small bushes only 2 feet high, and 2 ft. wide, with 36 clusters of roses, some numbering as high as 40 in a cluster.

To the above list of Double Prairies, may be added, the Kentucky Multiflora—it is of the same character; and a great climber—blooms very late—full double, and in large clusters. Flowers splendid deep rose.

Thus, Mr. Editor, you will perceive there are double prairie roses of almost every hue; and who would not possess themselves of such rare beauties. We have procured these roses at great expense, and will offer all the above for sale this fall and next spring.

The active partner will take much pleasure in showing any of the above or other varieties of roses or plants to all persons wishing to examine them. He can at all times be found upon the grounds, or at his residence nearly opposite that of V. W. SMITH, Esq.

While writing on running roses, perhaps I may as well describe a new double yellow fragrant climbing rose, of which we are the proprietors, and which we think of letting go out next spring. This is a new seedling. In its character of growth, it resembles the double Michigan, putting up shoots from 18 to 20 feet in a season. The foliage is of the largest size and deepest green—the flowers pure yellow, and uncommonly large, and no tea rose can exceed it in fragrance. Chromatella and Solfaterre in their growing habits will bear no comparison—neither will Lamarque, and the flowers of each of the above are much lighter in colour, as well as much smaller. Neither Chromatella, nor Solfaterre possess any fragrance—nor does Lamarque comparatively speaking. We consider this rose the greatest acquisition of all the new running roses, and it is the only one of this robust, fragrant character, on record, either in America or Europe. *A. Fahnestock. Syracuse Journal.*

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DR. KIRKTLAND'S SEEDLING CHERRIES.—Mention has several times been made in our columns of a number of new and valuable cherries produced from seed within a few years past by Dr. Kirtland of Cleveland, and in our paper of Nov. 1, 1847, descriptions are given [from the Horticulturist] of seven of the most promising of these seedlings. Since that time several others have been fairly tested, and found valuable, but no description of them has yet been published.

Besides the large number of seedlings—some forty or more—Dr. K. has a large collection of the approved known and named kinds, so that his collection of cherries, now in bearing, probably exceeds that of any individual in the West, and is not excelled by many in the eastern States. It is proper to remark, that his soil is quite sandy, with a mixture of shade and gravel, which seems to be highly favorable for this fruit, and it is not prebable that the varieties would produce as much and as good fruit if removed to a clayey or otherwise unfavorable soil.

At the time of our visit the past month we find

the early cherries all in fine eating condition; among these are three of the seedlings described in 1847, to wit: Rockport Biggarreau, Doctor and Cleveland Biggarreau. The Rockport was not quite as large or well flavored this year, as usual, we were informed, [and in fact this might be said of nearly all cherries, owing we suppose to the drouth,] but it was very fine. The trees of Doctor and Cleveland Biggarreau were completely loaded down with the rich tempting fruits. The former tho' small or medium in size is very sweet and rich; the latter very closely resembles the Yellow Spanish, except in its earlier maturity, and perhaps being more productive. "Kirtland's Mary," "Ohio Beauty," and "Elliott's Favorite" were not ripe, but their appearance was exceedingly fine, especially of "Kirtland's Mary."

Among the numbers of seedlings which have not been named or described as yet, we noted "No. 10," a beautiful light red yellow cherry, of large size, very sweet and high flavour; and we were imagining, how pleasant it would be to have a large tree in full bearing, that we might gather and eat at our leisure, when the Doctor drew us along, tasting of one and another, until we came to a black cherry, "No. 4." This is a splendid fruit for gardens or orchards; it is nearly as large as the Black Tartarian, with similar outward appearance, but the flesh is more firm and perhaps a little richer. From this we passed to "No. K," a seedling much resembling the Early White Heart, but ripening a few days later. "No. 31" is a black cherry of medium size, good but not yet of size and quality to commend; this is its first year of bearing, and it will probably improve. "No. 52," is a fruit above medium size, of a fine, clear, redor amber yellow mottled with red, as grown in sun or shade, of a waxany, glossy character, flesh slightly tinged with red, tender and juicy, first year's fruiting, promises fine. "No. B. B." is a cherry of medium size, somewhat resembling the American Amber, very sweet, juicy and good flavor; this also fruited for the first time this year, and was not quite ripe when we saw it. "No. N." is a cherry much resembling Black Eagle, but ripens earlier, and we should judge, would prove valuable. "No. 30," this was fully ripe, and for a small tree and its first fruits, we think it promises much. It is a black cherry, something like Knight's Early Black, juicy, sweet and rich, and ripening with the Early White Heart. "No. A. A." promised to be a fine black cherry; it was not ripe, and so we might say of many more of which the Doctor with his wonted courtesy called our attention, but getting tired, we put up our note book, with merely adding, that we never saw a tree more abundantly loaded than was the Late Biggarreau, but as the fruit was only about half ripe, we could say nothing of it. As we were wending our way towards the house, the Doctor called our attention again, and directed us to a seedling tree near his house, the fruit of which

was unripe, but which had fruit two seasons previous, and proved so fine that he had propagated it, and Mr. Elliott had named it "Delicate."

Mr. Elliott being almost daily examining these cherries, with the Doctor by his side, and making his notes, the public may safely count upon having introduced to their notice only such as are really deserving.

We will only add that the cherry known about Columbus as the "German May Duke," has been decided by Dr. Kirtland, and also by Mr. Downing, we believe, to be identical with the "Early Purple Guigne" of the books and foreign catalogues. It is one of the very best cherries known, but it is said to be rather hard to propagate. *Ohio Cult.*

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EFFECTS OF MOISTURE ON FRUITS.—Lieut. MAURY, of the National Observatory, Washington City, has made a valuable communication to the *Southern Planter*, on the subject—"How the National Observatory is subserving the interests of the Farmer as well as the Mariner"—from which we take the following:

My investigations show—always supposing the soil be *there*—that cotton, sugar, coffee, rice and tobacco and indigo, with spices, drugs and balsams of infinite variety and great value may be grown from the mouth of the Amazon all the way up to the base of the Andes—and they point to the valley of that river and its tributaries as one of prodigious capacities—of productive capacities as far exceeding those of our great and greatly boasted Mississippi valley, as this exceeds that of the Hudson. The valley of the Amazon is rich, wide and fruitful beyond measure.

These investigations also indicate what, upon inquiry I learn is the case; that there is a wet and dry side to the Alleghany Mountains,—that in some parts of the range, the eastern, and in others the western side is the dry side. Good grapes, I am sure, will grow on these dry sides, and it is probable that they would make good wines.

We know how powerfully the presence of abundant moisture in the atmosphere affects the flavor of our delicate fruits; at certain stages of the crop a few days of rainy weather will destroy the flavor of the strawberry, the peach, etc.; and we know that the grape requires sunshine and dry air to perfect its secretions.

The finest grapes in the world are grown in the valley of the Caspian sea, where Humboldt tells us the air is so pure that the most finely polished steel may be exposed in the open air for days and days without having its lustre tarnished. This is but another expression for a low dew-point, or a dry atmosphere. There the evaporation and precipitation, as in our valley of the great Salt Lake, are exactly equal.

Though there may be here and there under the mountains of Georgia, the Carolinas, Virginia, Tennessee, &c., small districts adapted

to the production of wine, these charts "of the winds and currents of the sea," indicate that there is on this continent a large district, the climate—for I know nothing of soils—of which is admirably adapted to the culture of the grape. That climate is in Northwestern Texas and the regions thereabouts.

I may be excused from mentioning another discovery with regard to the culture of the peach and other fruits to which I have been led by some experiments with the thermometer on a fleece of wool.

I procured a bit of tanned sheep skin with the wool on, placed it with the woolly side up, in a bucket as though I intended it for a hen's nest; I then put a thermometer in it with the bulb in the bottom of the nest; and set it out in the open air.

This thermometer, of certain clear nights in August, when the thermometer on the outside of the nest and also in the open air stood at 75°, and when that in the nest during the day had ranged as high as 150°, was found to stand at 42°.

This explained to me the reason of our finding in the low lands and bottoms the earliest signs of frosts in autumn, and the latest in spring.

These are the places therefore which in clear weather, when radiation is active, are the hottest in the day and the coolest in the night. And if you plant the peach there, they will force its blossoms in the day, and nip them with their frosts at night.

Now, on the hill tops and sides, the weather is cooler in the day, and warmer in the night when radiation is active—consequently the hill tops and sides will not force the buds so soon, nor make frost, nor kill the fruit when the bottoms will; and therefore the hill tops and sides, not the bottoms, are the places for orchards.

There is a ridge about Washington upon which the peaches seldom fail, when failure is common to orchards planted a short distance from it on either side.

Travelling last summer through the beautiful valley of Wyoming, I noticed near Wilkesbarre, that with fine mountain ridges close at hand, the apple orchards were all in the river bottoms—the worst possible place for them—and on inquiry was told—what I knew would be said without asking—that it was a poor fruit country.

The best fruit-growing height for each district must be determined by actual experiment; and I have no doubt if the farmers of Wyoming valley would cut down their fruit trees in the river bottoms, and plant an orchard reaching from near the base to the top of the surrounding hills, they would discover the best apple growing elevation; and planting orchards at that pitch, they would probably be rewarded with fine fruit.

PENNSYLVANIA HORTICULTURAL SOCIETY.

The stated meeting for July occurred on Tuesday evening, 16th instant, in the Chinese Saloon. Dr. Wm. D. Brinckle in the chair.

The display on this occasion was unusually rich in fruits—grapes especially; one large table being entirely covered with dishes containing that fruit alone—a most tempting sight. The contributors were, Judge Kane's gardener, who presented four very large bunches of Black Hamburg; Thomas O'Brien, gardener at Eden Hall, six bunches of Black Hamburg, three of Red Chasselas, three of Sweet Water, three of White Chasselas, and three of White Frontignan; Frederick Wolf, gardener to S. W. Gambes, Montgomery county, three of Malaga, and three of Chasselas—very large; Ben Daniels, gardener to the president, three bunches of Black Hamburg, and three of Reine de Nice; James Dundas' gardener, three of Black Hamburg. Among the other fruits might be noticed remarkably large and fine flavored Moorpark apricots, from Laurence Shuster's garden; and excellent specimens of the same variety from Mr. Dundas' garden; also a large dish of good fruit from David Cook's Norristown grounds. Mrs. John R. Smith exhibited apricots, pears, and two kinds of gooseberries. James Bisset, gardener to James Dundas, presented a dish of very handsome Red Roman nectarines; Jacob Shedaker, fine Miser or Mirabelle plum; Rob't Buist, pears of the Madeleine and Doyenne d'Ete varieties; John Perkins, of Moorestown, N. J., apples—the Yellow Harvest, Yellow Juneating, and Woolman's Early Harvest; A. W. Roe, of Woodbury, N. J., Bough apples, and Morello cherries; Dr. Brinckle, seedling raspberries, of the President Cope and Orange varieties.

Of plants, there were five collections. In Peter McKenzie's, there were, worthy of note, nine new and most beautiful Fuchsias, *Torenia asiatica*, and Verbenas. In Mr. Dundas', five *Achimenes grandiflora*, ten Fuchsias in variety, *Campanula nobilis*, very fine specimen of *Hydrangea japonica*, *Lilium lanceifolium*, *Oncidium papilio*, and other air plants. Among those from C. Cope's garden, four *Stephanotis floribunda*s, *Vernicea Lindleyana*, Cacti in variety, and Fuchsias. In John Lambert's were *Pentas carnea*, *Cuphea platycentra*, *Caleceolarias* and Fuchsias; and in Jno. Sherwood's were six choice Fuchsias, *Justicia carnea*, Double flowering Myrtle, six Verbenas, &c. &c. The designs and bouquets were handsome. Among the vegetables there were many well grown specimens, by Anthony Felten, Maurice Finn, gardener to John Lambert, and Ben Daniels, gardener to our president.

Premiums were awarded as follows:

At the intermediate meeting, July 2d. By the committee on plants and flowers. Picotees—for the best six varieties, to Ben Daniels, gardener to Caleb Cope. Seedling Picotee—for the best American, to J. J. Jennings. The committee noted a display of Seedling Phloxes and Petunias, by Thos. Meehan, gardener.

By the committee on fruits. Currants—for the best 2 quarts red, and for the best 2 quarts of white, to John J. Jennings; for the best black, to Maurice Finn, gardener to John Lambert. Gooseberries—for the best quart, to Ben Daniels—for the Amber; for the second best, to Jno. J. Jennings. The committee were much gratified with specimens of seedling raspberries, grown by Dr. Brinckle, consisting of eight varieties of much merit.

On the present occasion, by the committee on plants and flowers. Cacti—for the best six plants in bloom, in pots, to Ben Daniels, gardener to Caleb Cope. Lilies—for the best two specimens in bloom, to Wm. Burnley, foreman to Jno. Sherwood. Hot-house plants—for the best grown three varieties, and for the second best ditto, to James Bisset, gardener to Jas. Dundas. Green-house plants—for the best grown and finest flowered, to James Bisset; for the second best ditto, to Ben Daniels. Plants in pots—for the best and most interesting collection, to Maurice Finn, gardener to John Lambert; for the second best, to James Bisset; for the third best, to Wm. Burnley. Design of cut flowers—for the second best, to Ben Daniels. Basket of cut flowers—for the best, to Maurice Finn; for the second best ditto, to Ben Daniels. Basket of indigenous flowers, to Robert Kilvington. And a special premium to Mrs. Dr. Coleman, of Pemberton, N. J., of one dollar, for a beautiful basket of indigenous plants.

By the committee on fruits. Grapes—for the best three bunches of a black variety—Black Hamburg—to Thos. S. Blair, gardener to Judge Kane; for the second best ditto—Black Hamburg—to Thos. O'Brien, gardener at Eden Hall; for the best of a white variety—Malaga—to Frederick Wolf, gardener to S. W. Gambes, Montgomery county; for the second best—Reine de Nice—to Ben Daniels. Apricots—for the best twelve specimens—the Moorpark—to John A. Goehring, gardener to L. Shuster, Spring Garden; for the second best—the Moorpark—to James Bisset. Nectarines—for the best six specimens—Red Roman—to James Bisset. Pears—for the best—the Madeleine—to Isaac B. Baxter; for the second best—the English Jargonelle. Apples—for the best—the Yellow Harvest—for the second best—the Yellow Juneating—to John Perkins. Plums—for the best—the Miser or Mirabelle—to Jacob Shedaker. And special premiums—for Morello cherries, one dollar, to A. W. Roe, Woodbury, N. J. For one quart of gooseberries—the Whitesmith—one dollar, to Mr. J. B. Smith; also to Ben Daniels of two dollars, for Black Hamburg grapes, and another of two dollars for White Chasselas, to Thos. O'Brien. The committee would also notice a few specimens of very fine seedling gooseberries, exhibited by Dr. Brinckle, and raised by him of the Orange and President Cope varieties. They also mention that Isaac B. Baxter exhibited, *ad interim*, very fine gooseberries; some measuring three inches in circumference.

By the committee on vegetables. For the best display by a commercial gardener, to Anthony Felten; for the best display by an amateur, to Maurice Finn; and for the second best, to Ben Daniels.

The treasurer reported his semi-annual statement of accounts.

The amendment to the by-laws proposed at last meeting was adopted, by which the whole of the committees will be appointed in February; and the existing committees will continue until successors are appointed.

An interesting communication from corresponding member, Dr. J. A. Kennicott, on horticultural subjects, was read.

The premium schedules of the Delaware Hort. Society, the New-Haven Co. Society, and Chester Co. Society, were reported as being received.

Members Elected.—Joseph T. Johns, Michael Magee, and Charles Harbert. Adjourned.
THO. P. JAMES,
Recording Secretary.



JOURNAL OF RURAL ART AND RURAL TASTE.

VOL. V.

SEPTEMBER, 1850.

No. 3.

SEPTEMBER is the month for the great horticultural shows all over the Union; and it seems to us, therefore, a fitting time to indulge in a few comments on the influence of these shows upon the state of horticulture generally.

These annual exhibitions of the choicest products of the garden, are certainly most beautiful and interesting in themselves, and most useful in begetting a popular taste for horticulture. Numberless are the examples where men are fairly astonished into the enjoyments of gardening, by having the wealth of the soil thus suddenly displayed under their eyes, just as in the olden times an uncontrollable passion for wealth was begotten by the occasional exhibition of the treasures of gold and silver, made to poor mortals by the genii of the mountains. And many a sluggard, who would otherwise be contented with the most indifferent crops of apples and potatoes, is roused into becoming a good cultivator, by finding at the exhibition, that his neighbors are raising delicious fruits, and greatly improved vegetables, from the same soil as that which—because he is behind the times—only gives him pie-apples and drum-head cabbages.

So far, then, as awakening a taste and exciting the spirit of emulation, which begets good cultivation, goes, our horticultural socie-

ties have done and are doing a great deal of good. But for twenty or thirty years, the most prominent of them have been working on precisely this platform, without apparently the least desire of reaching a higher level, or a more extended sphere of usefulness. Perhaps we ought partially to except the Massachusetts society, which has, by the publication of a series of its Transactions, aimed at a wider range; but still not all that could be desired from so influential an institution.

To confine ourselves to the more immediate subject of the annual exhibitions—the great defect there, is in the small amount of practical information which they convey to the minds of those who visit them for instruction; for it must be remembered, that in this country three-fourths of all the gardens are not cultivated by educated and competent gardeners, but by the proprietors, with perhaps the assistance of a gardener who is little more than a day laborer. Now let us suppose the owner of a small garden of this kind, who has just commenced operations (and the examples are numberless,) visits the annual show of one of our largest and oldest horticultural societies. He finds there a large display of fruits, flowers and vegetables. The variety of new fruit is indeed astonishing—especially the show in Boston, where he may find three

or four hundred sorts of pears, all labelled, and carefully placed on the tables. Some are very large and beautiful; others, fine looking but not so attractive; and others so positively indifferent and ugly in their coats and complexions, that, except to serve as a foil to the others, he is at a loss to know what brought them into such good company.

To so much information as may be got by the *eye*, our visitor, in common with all others, is indeed fully welcome. But in the case of fruits, at least, every good cultivator knows that there are optical delusions, phantasmagorias, and painted cheats, which, when put to the only true test—that of the sense of taste—show plainly that there are other sodom-apples, besides those on the borders of a certain sea in Asia. There is, to be sure, a “testing committee” in all these societies; but our novice has not the passport to the private room, where they hold their sittings; and their information, which is of a genuine and substantial kind, is all free-masonry, so far as he is concerned. All that he is allowed to do, is to walk round the tables and admire the fine forms and proportions of the fruits, learn that this pear and that bunch of grapes were raised by Mr. A., or Mr. B., and see that they are really handsome looking specimens.

It is true, that by seeking the personal acquaintance of Messrs. A. or B., and asking a variety of questions as regards quality and culture, our novice may learn much; and it is well known, that in this kind of intercourse which takes place at the exhibitions, a great deal of useful information is actually given and acquired—far more than is directly disseminated in any way by the society. But, on the other hand, not one person in ten, of all the thousands who take advantage of the three days annual exhibition, have, or can readily obtain that personal acquaintance with the exhibitors, which would enable them to obtain such information.

In every society there are, again, some members who are in advance of the others in making successful experiments, or in raising specimens of extraordinary size and excellence. They are in possession of information which they would cheerfully impart, and which, perhaps, they have imparted to many of the members. But as they are not always men who write for the press, and as their neighboring cultivators already know all about their practices, the society thinks it of little or no importance that the numerous assembly which throngs its exhibition rooms—among which are many novices, anxious to learn, (and who would learn fastest with the proofs of successful culture before their eyes,) should know anything about it, beyond the fact that they have made “a glorious exhibition.” We visited, for instance, two years ago, the triennial exhibition of the Massachusetts society, and saw a great many surpassingly fine specimens. Among other remarkable things were pears of extraordinary size, beauty, and excellence, from Plymouth,—a bleak and inhospitable climate for gardening,—yet whose active cultivators had unquestionably succeeded in growing pears far more successfully than others equally skilful in more sheltered and apparently more advantageous sites in the interior of the state. There were the facts before our eyes, but the explanation we could not get for a long while. Some one or two individuals in the same climate, and with the same soil as their neighbors, had also succeeded in producing Seckel pears, of the size of the Doyenné or Virgalieu, without any loss of flavor; and all that we could learn about it was, that it was done by high manuring,—but in what way, and what fertilizers were used, no one was present to tell.

Now, let us suppose that at one of these exhibitions, the society—instead of being deaf and dumb, while exhibiting its charms to the admiring multitude of amateurs—should take

it into its head to *speak*! Would not the effect upon the audience be far more agreeable and instructive. This severe abstract address to the eye and the imagination, may do for poets and artists, but not for such *realists* and practical demonstrators as most horticulturists are. Suppose, for instance, that competent committees are appointed sometime before the exhibition, who shall carefully *scan* the whole collection, and label, with the authoritative stamp of the society, a dozen—more or less—varieties of each class of fruits, “good,” “very good,” “best,” (the now established classification of American Pomology,) letting it be understood that all sorts not so labelled were either not sufficiently proved, or if proved, were of no value for the palate. Suppose that whenever the committee should be satisfied that any remarkably fine objects in exhibition had been raised by a method of decided merit, not generally known, that such method should be very concisely stated in printed letters on a card accompanying the specimens. Suppose that a crop of vegetables, raised upon common soil, which owed its superior fertility solely to having been made deep, should have stamped upon the label the words—“grown in trenched soil.” Suppose the exhibitor of a certain fruit, which he is able to produce in abundance and with facility, should be (willingly) cross-questioned till the secret should be ascertained to lie in his soil, or in paving under his trees, or in using

lime as a manure, etc., and such fact or facts should be concisely and legibly expressed and exhibited along with the fruit; let us suppose such an exhibition, where valuable information should be made public in this manner, where, in short, the society should not only make its usual display, but disseminate “useful knowledge,” and we think it cannot be denied that the utility of such an institution would soon be felt to be far wider and deeper than any existing at the present moment in the United States.

We offer these remarks as suggestions only, to the officers of the different societies. It is easy to see that, a beginning once made in this direction, a new system would arise, and new plans of direction would be formed, that would soon lead directly to fresh experiments and more careful and scientific modes of culture. The advantage to the progress of horticulture would be two-fold. First, in every society cultivators would spring up who would exhibit remarkable specimens, which would be doubly instructive as the result of well directed skill, and not of chance, (as at present;) and second, there would be a gradual record and accumulation of facts in each society, which, when made public, would tend vastly to the progress of the art all over the Union; since every art, the progress in which depends on experimental knowledge, can make but little real advance, while the knowledge of successful experiments is confined to a few practitioners.

RANDOM THOUGHTS ON RURAL LIFE.

BY C. L. D., NEW-JERSEY

I THINK it was Judge PARSONS, of whom the anecdote is told, that while waiting for his dinner at a country tavern, when on a journey, he strolled into a blacksmith's shop, and from thence to that of some other trades-

man, and, in a few minutes' conversation, imparted to each so many useful hints in regard to his art, that when the two afterwards compared notes respecting the stranger, each was positive he must be a member of his particular

craft. The capacity of acquiring and retaining such universal information, is certainly very desirable; yet it is so rare as to excite astonishment when it exists naturally, and so difficult of attainment that most men who attempt it become mere smatterers, without a real knowledge of anything; which last are always the greatest bores, as the former are the most entertaining companions.

The great mass of the human race would do well to confine their energies to one channel; and yet, when we consider the endless variety of subjects which might naturally excite the wonder and curiosity of every one at first sight, we can but be surprised not only at the great ignorance, but at the indifference, of those who are constantly brought in contact with them. In nothing is this apathy more remarkable than in regard to the wonders of the natural world.

The wonders and mysteries of the life and growth of trees and plants, are enough to furnish subjects of study and reflection for a life time; yet in nine-tenths of the human race, they excite less interest than the last new toy, or trick, whose operation is based upon well known principles, or whose mystery we know to be only a jugglery.

The grapevine, which covers the arbor in which I write, is fed with materials offensive to the senses, and which would be destructive to health and comfort if left to spread their poison in the air; but being buried in the earth, within reach of the roots of this vine, they are transformed into luxuriant foliage,—blossoms of most delicate fragrance, and fruit of most luscious flavor; and then after a period of apparent death, the wonderful process is renewed, and so it goes on year after year for a life time. If the wealth of the universe were offered for its performance, human power could not accomplish this transformation. Human knowledge cannot explain, human imagination cannot conceive, how it is brought

about; and yet, for one man, who ever feels any surprise or curiosity at sight of such an object, you shall find a thousand who are astonished at the working of a steam engine, and ten thousand who are mystified and awe struck with the “Rochester knockings.”

But to come down to simpler matters. To one who is practically engaged in the culture of the soil, it is amusing to observe how little is known of the subject by those who are otherwise occupied. Thousands of worthy and intelligent inhabitants of our cities, whose means enable them to provide their tables daily with the best fruits and vegetables of the season, know nothing more of the history of the articles which minister so largely to their comfort, than that they are to be found, ripe or green as the case may be, in certain shops and stalls about the city.

For the most part, it is probable that no thought of their previous existence ever enters their minds; and yet the fact is not without interest, that the vegetables now smoking on the board, were yesterday growing in a field perhaps a hundred miles off, and for months have been an object of care and interest to some one who planted and reared them; that their perfection is the result of scientific research and careful experiments, conducted for a long series of years.

And to come closer home—how large a portion of the people who live in the country, and even of those who are actually engaged in the culture of the soil, are not only utterly ignorant of the nature of the plants they cultivate, the functions of the different parts, and the conditions of their existence and health, but have never even felt any curiosity on the subject,—in short, have never thought of it; and yet therein consists the true charm of the farmer’s life—the life whose delights have been so often set forth by poets, good and bad, and have caused such oft repeated disappointments to rurally disposed cockneys.

To him who has the taste to seek and search into the wonders and beauties, which every vegetable in daily use contains in the principle of its existence, the life of the cultivator of the soil can never be dull or insipid, though it be passed in seclusion. As the culture of the soil must always be the occupation of the great mass of the human race, it is wisely and bountifully ordered by Providence that "the earth shall yield her fruits," on such simple conditions as to require but slight exertion of intellectual power; and we accordingly find, from time immemorial, that a large portion of the agricultural population is composed of very ignorant people. "How can he get wisdom that holdeth the plough, and glorieth in the goad; that driveth oxen and is occupied in their labors, and whose talk is of bullocks? He giveth his mind to make furrows, and is diligent to give the kine fodder."

These words were written two thousand years ago; and though the common school system is somewhat improved since then—to say nothing of the equivocal blessings of cheap literature—there is still a large class of tillers of the soil to whom they may justly be applied. Early habit has inured them to hard labor and rough fare; and their wants being but little above those of their own cattle, their state of existence is not very different. They plough, and sow, and reap, as their fathers have done before them, and look with suspicious eye on any innovation upon established customs.

On the other hand, the philosopher who delights to fathom the mysteries of the natural world, finds in the culture of the soil an endless field for scientific research, whilst he also finds that the increased returns which result from the application of the principles he discovers, enable him to surround himself with many more of the comforts of life, which to him are necessities, than the clown who could

not appreciate if he had them. The position of such a man, I take to be one of the highest and most dignified, as it is the most natural, in which man can be placed; and though there are few whose natural capacities, or whose opportunities of acquirement enable them to reach the highest standard in this character, yet there are thousands of hardy sons of the soil scattered over the length and breadth of our land, who, without other means of improvement than are within the reach of all, have yet raised themselves so far above the clownish stupidity of the class I first named, as to command the respect of all whose respect is worth having. In every rural community may be found representatives of this class,—men who read, and digest what they read,—men who think for themselves, and in whose conversation the wisest may find pleasure and instruction. They are not men to put themselves forward; but he who seeks, will find them enjoying the comforts and fighting the battles of life in comparative seclusion, but with none the less earnestness. They are practical philosophers, though perhaps they know it not themselves, and are noiselessly pursuing such a natural mode of life as many a social reformer is endeavoring to bring about with a vast amount of cumbersome machinery. They feel no want of other sources of happiness than are within their reach; for their taste for pure and simple pleasures has not been vitiated by the stimulants of fashion, or the excitement of speculation.

The man whose life has been passed in the din and turmoil of the city, looks often with longing eyes to the quiet repose of the country, and fancies that he too would be happy in such rural scenes. Perhaps the memory of a childish home among the hills, to whose tranquility he would fain return, adds a gilding to the picture; but how often, on attempting to realise his dream, does he find that he has grasped a shadow; and yet, it is not the

picture which is false—it is himself who is changed. His tree of life has struck deep root into a far different soil, and it will not bear transplanting. The prevalence of the desire is evidence of the excellence of the object, which preserves its loveliness of appearance, even to him who has lost the power of securing it.

It is a good omen for our country that a sense of the advantages of such a life is spreading among our people. With an increasing love of the beauties of nature, will come a higher perception of those of art, a more just sense of what constitutes the true value of wealth, and a wider spread knowledge of the true objects of existence.



BUILDINGS FOR HORTICULTURAL PURPOSES.

[FROM THE LONDON HORT. MAGAZINE.]

As many persons are deterred from building green-houses and conservatories by the expense, or rather the supposed expense of their erection, it ought to be generally known that by going a proper way to work there is hardly an excuse for being without these luxuries, (for such we deem them,) in any moderate garden. It is true that those persons who set themselves up as builders of such concerns, and who would make it appear that there is something peculiar that takes them out of the ordinary builder's business, do charge very exorbitantly for all kinds of horticultural buildings; and where money appears to be no object, they do not forget to throw a good deal of cost into certain features which are no improvements, and which add no single advantage to the concern. By adopting circular forms and domes, by arrang-

ing designs so as to cause irregular cutting for the glass, by bringing in subjects out of the usual size, and using material that is difficult to procure or work, it is very easy to swell the cost of anything; and it becomes simply a question of a great expenditure or none, for the party who wishes to build; and often ends in their declining altogether to have anything of the kind erected.

Let us, then, see how economically we can build a green-house and a conservatory, and we will reduce the thing to lines and figures, so that our readers may add the cost of carrying material, and of the labor on the spot, to put them together, and so see how much it would cost them; or they may find builders on the spot, to complete the whole, without having any portion from London.

There are to be had many carpenters who

are clever at such work, and who will execute the woodwork of any of these buildings at one shilling per foot. Suppose, therefore, we calculate that a lean-to green-house, Fig. 19, has

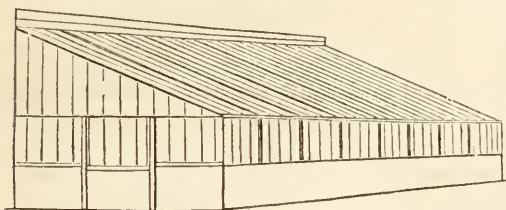


Fig. 19.

three feet of woodwork upright in front, and two six-foot lights from back to front, and three feet six inches wide, and that there be ten of these lights side by side to make the length of the house, which would then be thirty-seven feet. Suppose the tops are sloped so as to give us ten feet for the depth of the house, there would then be, three times 37 feet, (111) for the upright front, and twelve times 37 feet (444) for the roof, and say sixty feet for each end (120.) The doors will add about 20 feet. We now get at the total number of feet, which is 695, which number of shillings, thirty-four pounds fifteen shillings gives us the carpenter's work. We will reckon the glazing of the roof, or 444 feet, at $4\frac{1}{2}d.$ —eight pounds three shillings and two-pence, and the rest of the glass, 231 at $8d.$ —seven pounds fourteen shillings. There would be wanting the price of the bricklayer's work only to complete this building, this depending a little upon the price of the material in the

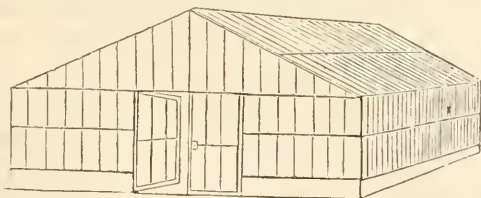


Fig. 20.

locality, for sometimes the distance the bricks have to be drawn makes a good deal of difference; but the height of the brickwork, say eighteen inches in the ground, and two feet six out of the ground, together four feet, with the ends fifty-seven feet in length. This should be nine-inch work: say it will cost ten pounds, making sixty pounds, and under sixty-one. The heating of a house like this

would require a conical boiler, say three pounds; and eighty feet of pipe, at eighteen pence, six pounds; and fixing, say two pounds more. Here, then, is a first rate range of green-houses, thirty-seven feet long and ten feet wide, for about seventy pounds, as handsome as it can be built, and all complete.* A conservatory, Fig. 20, the same length and double the width, and with glass to the bottom, may be reckoned at double the sum, and no one could doubt of the effective appearance of this style of building for both. The annexed sketches

of a green-house and conservatory will give an idea of the buildings alluded to in the foregoing notice. The prices mentioned are quite the outside, and include all the fastenings, hinges, and necessary means of heating. The filling up of the inside is so completely a matter of taste, that it is impossible to say what would be the cost, until the intended plan is known. The best way to fit up a green-house is with a table or rack in front, two feet wide, and shelves the form of the roof at the other side of the path. Fig. 21.

The conservatories may be fitted rather differently, for the object there is to make it a sort of winter garden. There should be a broad walk all round, laid with the finest binding gravel. The centre should be prepared for planting, and the borders should be glass, which is the most neat and elegant, as well as lasting of all borders. As the glass of the windows reach to within a trifle of the ground, there may be a rack or shelf one foot wide even with the bottom of the glass. Un-

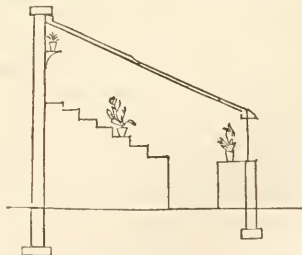


Fig. 21.

der this rack should be placed the hot water pipes for heating, a gutter being formed just below the surface to make room for them. This shelf or rack is to hold pots of blooming plants, with which it should be kept supplied.

* The cost would be about the same price here, if substantially built; that is, at about \$10 per foot, or \$370 for the whole. ED.

The ties which are necessary across the roof, and pillars which are usually placed at given distances, are so many useful supports for climbing plants, and the centre bed should be planted with much more regard to after-effect than any we have seen, for even that at the horticultural society is crowded with coarse, worthless subjects, which are damaging or banishing altogether much better things. A section of the conservatory would be something like Fig. 22. The path round might be of marble or Portland stone, but it is better to have it like the principal gravel walks; and with regard to the planting, the middle

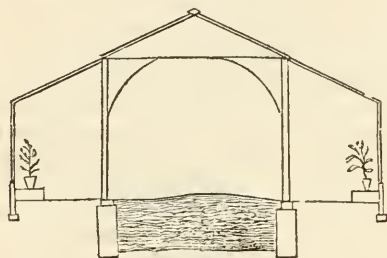


Fig. 22.

should have the tallest subjects, not at the moment they are planted, perhaps, but those which are naturally tallest, and which are sure to go up. *Camellia japonica*, a few of the choicest kinds; *Azalea indica* according to their habit, the tallest in the middle. Nearly all the hard wooded plants of the Cape will do well, but a choice should be made of those that will be most effective.

The conservatory is used by many as a common green-house, and the plants in pots are crowded into it for the winter; but the luxury of the conservatory is absent altogether, unless it is heated as a winter garden. The centre should be dug like a border, and some plants should be put out as if they were shrubs in the open ground; others may be plunged in pots for the sake of their bloom while in flower, and be removed for others as they pass their bloom; but the conservatory should be supplied by means of other houses and pits with plants coming into perfection, and removable when their beauty has gone. By this means it may be kept one mass of flowers the whole year round, and especially grand and imposing during the winter months, when the *Camellia japonica*, with its random flowers, begins lighting up the houses which even without forcing, but with a

little management, can be produced flowering in abundance. All other early spring subjects can be hastened to bloom in winter; and summer flowering plants can be easily forwarded to bloom in spring. There are some things, however, so beautiful in themselves in all their stages, that they deserve a place in the conservatory, as permanent plants, and may be planted out in the centre beds to remain. Of these the *Camellia japonica* is one of the most striking, and three or four of the best kinds should be selected. The *Azalea indica*, *Hovea Celsi*, and a few others known to succeed well in such situations, should be planted out; and there are some few climbing plants worthy of a place in the very best selections. This, however, only explains the reason for some of the provisions made in a proper conservatory; our notions are that span buildings should have ties, and these ties may be made subservient to our purposes, for climbing plants look best when allowed to run across the roof, as it were, and hang, as they will, in festoons, and their ends form complete receivers of flowers. The style and the build of these erections must depend a good deal on their situations, and the places adjoining: several of the sketches are given to show how they may be viewed. There is a method, too, of heating them, somewhat different to that which we have mentioned. For instance, a gutter may be made under the floor, if it is wished to conceal the pipes, or the gutter may be made waterproof and covered with iron plates, and this could be used as a tank, and the water flow round the house in them, instead of in pipes. But we know of nothing better than pipes, and should always use them in preference.

To go from the consideration of these to other buildings. We have to mention that as the top lights constitute the principal expense in pits and frames, stoves, and propagating houses, they may be had for fetching at less than a shilling per foot, glazed complete and primed. Who would be without plenty of glass? The stove is important. It should, in a small establishment, be made to answer for anything of the stove kind, though many people are so prejudiced against this general treatment of all plants. These may be contrived in the same building, placed in the different degrees of heat that may be formed, or rather made, in the same house. There

can be always found appropriate places for different things; and it is worth while to keep also different degrees of dampness by artificial means. In the stove or hot-house, Mr. Penns' system for circulating the air is the most advisable plan for heating the house. This plan consists of giving off the heated air at the lowest portion of the house, that it may spread up the roof, and, as it falls, returning under the floor or false bottom to the place where

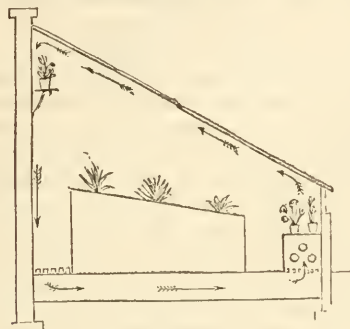


Fig. 23.

the fires continue to heat it as it passes from time to time, by which means a rapid uninterrupted circulation is kept up, and greatly contributes to the health of the plants. The section of a hot-house upon this plan would be something like Fig. 23.

On a large scale, this would be a most effective plan, for there is nothing more simple, and when one of the pits constructed on this plan is closed, the circulation of air is remarkably strong: holes are left, through which air may be admitted at pleasure; but it is not

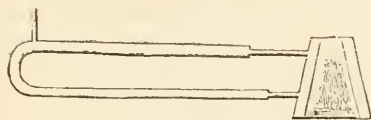


Fig. 24.

often required. The brick-work in the stove is more expensive than in a green-house or conservatory, and the false bottom under which the cooled air passes from the back to the front, rather increases the labor; but in houses in which the tan pits are built, they would form an obstacle to the free circulation of air, if it were not for a grating at the back to let it down under the floor as it cools, and another grating under the pipes to let the cooled air come up again between them to be

warmed again. The wood-work and glazing of a stove is no more than that of a green-house, and the build is much the same, except that the house should be deeper from back to front. The operation of the boiler and pipes is very simple, and may be understood from the foregoing diagram (Fig. 24,) for, turn and twist the pipes as you may, all that is required, is, that one end goes out at the top of the boiler, and the other end returns in at the bottom of the boiler. Thus the

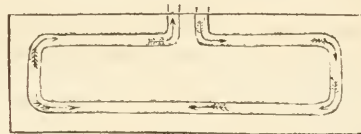


Fig. 25.

boiler is like two inverted flower-pots, one less than the other, and the water is between the inner one which holds the fire, and the outer one which is exposed. The fuel is put in at top and shut down. The fuel is provided for in the fixing. This boiler would feed hundreds of feet of pipe, and it is perhaps the simplest and best of the many plans for heating horticultural buildings; due regard being had to the capacity and the economy of the thing, for both are objects worthy of attention. It is easily managed, for when the fire is lighted well, the aperture may be filled to the top and covered over, the regulator of the flue being so far closed as to allow of slow steady combustion. If a tank for hot water is preferred to tan in the interior pit, the tank may be made about eight inches deep, or from that to ten, the top must be closed with large slates, cemented together, leaving only one aperture to open at pleasure; this may be heated by sending the usual iron pipes through the tank; on the top of this tank may be placed a foot of tan or soil, or any other medium in which to plunge pots, or plant whatever is to be grown. The top of one (Fig. 25,) is open to show the pipes, the

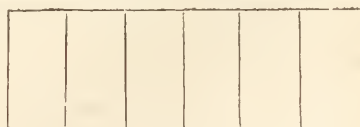


Fig. 26.

other (Fig. 26,) closed, to show the slates; but the water in the tank may come direct from

the boiler, in which case the circulation takes place in the boiler; a partition, such as is shown (Fig. 27,) facilitates the circulation greatly, though it would act without any partition, but the circulation would not be so

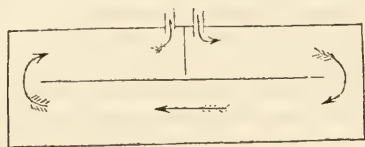


Fig. 27.

direct and complete. The adoption of a tank for bottom heat does not render the usual ones a bit less necessary for the regulation of the atmosphere of the house. In the management of these pipes, there is a choice of allowing the pipes to go through the tank and heating the tank water by those means, or the water may be fairly discharged into the tank from the pipes, and after circulating in the tank, going out again through the returning pipes: in this case, the tank would be thus—

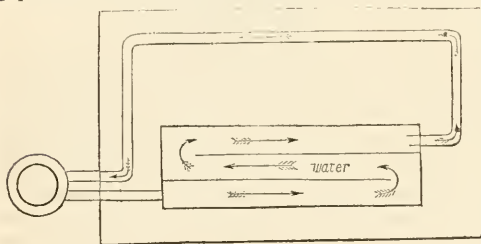


Fig. 28.

(Fig. 28.) Although only one pipe is represented, it can be doubled and trebled without affecting the main plan, and the saving of tan in the pit will be a considerable object, especially in localities that require it to be drawn any distance, for the cartage is frequently a good deal more costly than the material itself. We should always set our faces against any of the complicated systems for heating houses. The more all operations can be simplified the better, and changes are



Fig. 29.

always bad, if the plan in operation answers the purpose at all well. The construction of ordinary plant preservers, admits of great variety, because there may be every degree of heat and coolness; from the brick-built pit

that is without any means of heating, to the necessary heat for stove plants, and there is scarcely any description of erection upon which there is so much money wasted; and this expenditure is often the result of collusion between interested persons. Builders too often induce those who can influence masters to have very useless things built, and it has been greatly encouraged by the garden newspapers, recommending one ridiculous contrivance after another, much to the disadvantage of the gardeners who have the management of the concerns, and who no sooner get used to the things they have, than they are called upon to adopt something else no better—perhaps no worse, but nevertheless not a little expensive. A range of pits three feet high at the back, and fifteen or eighteen inches high in front, six feet from back to front—the glass and wood work of such a pit would be little expense, for the glass ought to be small, and the whole might be comprised in a shilling a foot, or three pounds every ten feet of length; ranges of pits of this description (Fig. 29,) will preserve heaths and hard wooded plants, with good covering, against frost, without any artificial heat, and they are the most useful of all the subsidiary buildings in a garden. If it be desirable, or necessary to preserve the surplus of stove plants, a single row of iron pipe, back and front, heated from any boiler, will answer the purpose; and if to preserve orchideous plants, the only additional precaution required, will be to provide the moist atmosphere; but a pit of this kind, without much moisture, will be excellent as a resting place for those not intended to grow for a while. Camellias do well in such pits, without any fire heat, and only require to be closed and covered during the hardest frosts. Several ranges of such pits adapted to the plants they are to hold, may be erected in an appropriate place in front of each other; as, however, some require only cucumbers, and cannot obtain stable dung, one of the pits should be heated upon the tank system, like that already proposed for heating the centre pit of a stove: the construction in this case must be the same, and it will be well to carry out the plan of the hollow or false bottom for the circulation of air, for that will always be found an acquisition where it can be done conveniently. It is only necessary to obtain additional height for the room taken up by

the depth of the tank ; many, however, prefer for pits, dung heat ; in this case, the wall of the pit must be perforated with holes, or rather must be built with holes, leading to a hollow chamber, over which the bed is formed, and outside the wall must be a second wall, and a trench between them (Fig. 30,) or there are others who have archways leading to the chamber, and thrust the dung into it, raking

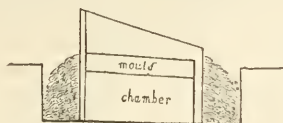


Fig. 30.

it out and putting a hot supply whenever the other gets too cold, so as to allow the heat of the bed to decline too much ; many, however, will do more with a common hot-bed and garden frame, than others can do with all the expensive contrivances of modern buildings, and this may be called the most unpretending and useful of all garden constructions. We believe we have gone through all the absolutely necessary buildings for a garden, for one or other of these may be used for peach, cherry, or fig houses, forcing house, or by whatever other name they may be called. The stove is fit for a pinery. The same contrivance in lower pits will do for succession plants. The form of the green-house, with appropriate means of heating, will do for grapes, and if we make any other particular alteration, it would be in favor of orchideous

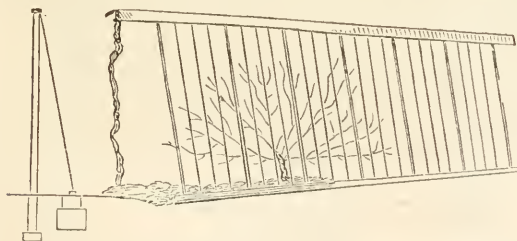


Fig. 31.

plants, but even here, we should deviate but little from the ordinary stove, except by making shelves and places whercon to hang the various contrivances to hold the plants, for when they are in flower, the conservatory should be their place, and when not in flower, there need be no great pains taken to render the house commodious for visitors, unless,

indeed, there be what may be called a show orchideous house, in which case the paths may be wider, and an open tank of water, not to be heated, except by the natural warmth of the place. This house, however, might be made a sort of stove conservatory, and if so, there may be any fanciful flower adopted that may suit the taste of the owner. We, however, do not profess to find a hundred plans for structures, on which no two persons' tastes would be indulged alike, and therefore leave this part of the subject for others, for each one will give a different opinion, and furnish a different design.

As a protection for plants on walls, without heat, one of the most simple plans is to use the lights of a common pit placed in a sloping position (Fig. 31,) and for a great preservation against the falling frosts, a coping should be always built on the wall. The lights may be placed close together, side by side, to extend the range as far as may be desirable, and the ends may be closed with mats. As a protection for climbing plants that are a little tender, it is very efficacious, for the coping prevents the heavy rains from trickling down the wall ; and there is nothing more fatal to half-hardy plants that are nailed against a wall, than wet in winter. The upper portion of the glass rests under the coping, so that no wet can get behind it. We have seen it recommended to place the entire frame against the wall, and the lights put on the frames. Of course, in such case, the small front of the frame is placed upwards. This is purely theoretical ; no man could reduce it to practice without finding out that the wood work could not be put close to the wall, unless all the stems of the trees or plants are nobbed into the wood work, nor would the wood work of the back, which is to be next the ground, lay even unless the border were level (which is not so in one of twenty places,) or as it were, propped to a level ; again, the plan would be useless if the border had any other plants on it ; again, wooden frames for lights are rarely more than six feet from back to front, so that all above six feet high would be exposed. The plan may do on paper, but not in practice. The lights of pits are, for the most part, from seven to nine feet long ; and in all gardens there should be as much uniformity in the size of the lights as possible. All

wooden frames for hot-beds should be five and a half to six feet long, and three and a half wide. All pits should be from seven and a half to nine feet, by four, to four and a half wide; but it saves immense trouble to have all the pit lights of the same dimensions; they are more handy to stow away, it matters not where they are used, and it is proper always to have a few spare ones. In using these lights against a wall, no matter whether one or a dozen be required, the ends have simply to be matted to keep out the cold; and whether there be six feet or sixty thus protected, there are but the two ends to mat. There are several considerations against using the wood framing; among these, the flat top being exposed, the rain will run in somewhere, for there is nothing to keep it out; in the next place, the glass is too far from the plants. The advantage of using the light only is that it can be placed nearly upright if necessary, or sloping out; and in very severe winters mats can be used all over them, and be easily kept in their places; not so if they project like a frame. If it be proposed to have framing on purpose, why, we might as well build a greenhouse at once. Our diagram gives a very good idea of what we propose, both as to the coping and the glass; a slate coping is all that need be put. This material is no weight for the wall, will easily fasten, and although much has been said for and against copings to walls, it is one of those instances of controversy in which one or both parties look but to one side of the question. One says the trees on a wall ought to have all the rain, and the coping is only good in winter; but all things under artificial treatment require to be managed consistently all through. We all know walls are a great protection to fruit trees, as well as other plants; but they have their evils as well as their benefit, unless we coun-

teract them. The trees on a wall require the nourishment of the rains from which they are shielded, because when the wind is blowing from the back, the rain never touches them; but if we, by artificial treatment, deprive a plant of any particular advantage, it is our business to supply it. Wall fruit trees, under proper management, have the advantage of moisture over their foliage, when they want it only, and thus escape an excess of wet which those unprotected do not. This moisture is supplied by syringes, and not one gardener in two takes the trouble to give it them. Syringing is one of the most efficacious operations imaginable; nothing keeps a plant so clear of vermin; nothing disturbs the pests of the walls so much. The fineness or coarseness of the holes through which the water is forced determines the force with which it can be thrown against the trees. Before the buds open at all, it cannot be too strong, for the use of it then is to clean the stems, and wash out the dirt and vermin or eggs that may be behind them. When the growth is young and tender, it can hardly be too fine, for although driven with as much force as we can from the engine, there is no weight in such small particles to damage the young growth. Now the syringing under glass becomes still more necessary, so also does it under a coping, for as neither the rains sloping from the back, nor the downright rains can reach the plant, it would lose the necessary moisture altogether, if not artificially supplied. Pegs may be driven into the ground to prevent the light from slipping outwards, or a narrow board with a ledge for them to rest on, and when it is necessary to remove the lights, there will be no vestiges of the temporary protection remaining. The coping to the walls is found very beneficial to many half hardy and tender climbing plants, and is never detrimental to anything.

A COUNTRY RESIDENCE IN THE ELIZABETHAN STYLE.

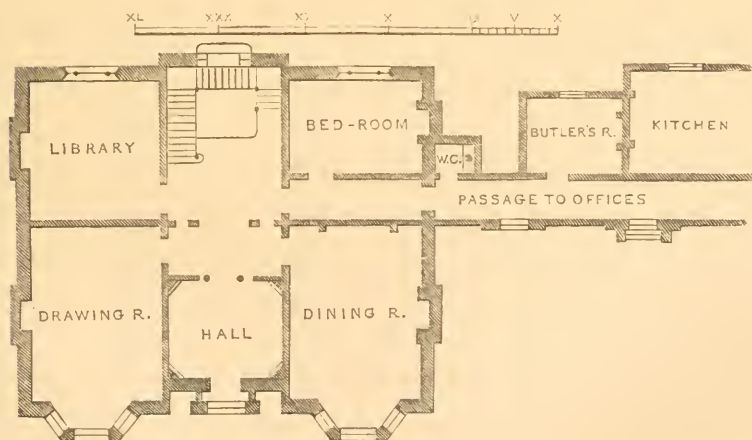
WE copy from Brown's Domestic Architecture—an English work, very little known here—the pleasant, comfortable-looking, country house, which makes our FRONTISPIECE. It is designed in that later kind of Gothic,

which some architects call the Tudor, and others the Elizabethan style.

Our object in placing it before such of our readers as are interested in rural architecture, is mainly to point out its beauties and defects,



TUDOR SUBURBAN RESIDENCE.



PRINCIPAL FLOOR.

as affording instruction to those who are engaged in studying plans preparatory to building.

There is, then, much that is pleasing in the exterior of this house. As regards symmetry, proportion, solidity, dignity, and a certain expression of substantial and refined comfort, it has claims upon our admiration. The arrangement of the first floor is simple and good; and the position of the kitchen offices, in a separate wing, partly concealed by shrubbery plantations, is excellent.

On the other hand, there is a great architectural deficiency in the composition of the roof, and sky outline of the elevation. We would both remedy this in a good degree, and improve the internal comfort and beauty, by placing the chimneys in the partition walls, exactly opposite the places in the principal rooms where they now stand. This would bring out the chimney tops towards the middle of the roof, instead of upon the outside walls; and as they would of course be carried up six or eight feet above the ridge, they would give central and pyramidal height to the middle of the pile, where it is now *squatty* and meagre. In other words, it would improve the exterior composition. To such a country house as this, a veranda is an indis-

pensable appendage in this country, though not essentially necessary in England. We would therefore add it to that side of the library and drawing-room where the chimneys now stand in the plan. Those chimneys or fireplaces being moved, as we have already suggested, to the opposite side of the rooms, a couple of broad windows, opening down to the floor of the veranda, should occupy their places, which would greatly improve the aspect of the rooms themselves.

The oriel window, which projects over the front porch, has a petty, cockneyish air, quite out of keeping with the rest of the front. By turning back to the frontispiece of our November number, 1849, the reader will see an oriel window correctly designed, which would greatly improve the *facade* of this house.

The staircase is both handsome and easy,—the hall in which it is placed being 14 feet wide, so as to give space enough for those broad landings and low steps which we rarely see, except in first class houses.

Altogether, this design might be remodelled so as to make a very satisfactory country house for the United States, with a few alterations like those we have suggested.

MR. DOWNING'S LETTERS FROM ENGLAND.

MY DEAR SIR:—As, after looking at some constellation in a summer night, one remembers most vividly its largest and most potent star, so, from amid a constellation of fine country seats, I can write you to-day only of my visit to one, but that, one which for its *peculiar* extent, overtops all the rest—WARWICK CASTLE.

Warwick Castle, indeed, combines in itself perhaps more of romantic and feudal interest than any actual residence in Europe, and for this very reason, because it unites in itself the

miracle of exhibiting at the same moment hoar antiquity, and the actual vivid present, having been held and maintained from first to last by the same family. In most of the magnificent country seats of England, it is rather vast extent and enormous expense which impresses one. If they are new, they are sometimes overloaded with elaborate details;* if old, they

*Like Eton Hall, near Liverpool, perhaps visited by more Americans than any other seat—though the architecture is meretricious, and the whole place as wanting in genuine taste as it is abounding in evidences of immense wealth. Warwick Castle bears, to an American, the same relation to all modern castles that the veritable Noah's ark, if it could be found still in full preservation, would to a model made by an ingenious antiquarian.

are often modernised in so tasteless a manner as to destroy all sentiment of antiquity. Plate glass windows ill accord with antique case-ments, and Paris furniture and upholstery are not in keeping with apartments of the time of Elizabeth.

In Warwick Castle and all that belongs to it, I found none of this. All was entire harmony, and I lingered within and about it, enjoying its absolute perfection, as if the whole were only conjured up by an enchanter's spell, and would soon dissolve into thin air. And yet, on the contrary, I knew that here was a building which is more than nine hundred years old; which has been the residence of successive generations of the same family for centuries; which was the fortress of that mightiest of English subjects, WARWICK, "the great king-maker," (who boasted that he had deposed three English sovereigns and placed three in their vacant throne,) which, long before the discovery of America, was the scene of wild jarring and haughty chivalry, bloody prowess—yes, and of gentle love and sweet affections, but which, as if defying time, is still a castle, as real in its character as a feudal stronghold, and yet as complete a baronial residence, as the imagination can conceive. To an American, whose country is but two hundred years old, the bridging over such a vast chasm of time by the domestic memorials of a single family, when, as in this case, that family has so made its mark upon the early annals of his own race, there is something approaches the sublime.

The small town of Warwick, a quaint old place, which still bears abundant traces of its Saxon origin, is situated nearly in the centre of England, and lies on one side of the castle, to which it is a mere dependency. It is placed on a rising hill or knoll, the castle occupying the highest part, though mostly concealed from the town by thick plantations. Around the other sides of the castle flows the

Avon, a lovely stream, whose poetical fame has not belied its native charms; and beyond it stretch away the broad lands which belong to the castle.

The finest approach for the stranger is from the pretty town of Leamington, about two miles east of Warwick. At a turn, a few hundred rods distant from the castle, the road crosses the Avon by a wide bridge with a mossy stone balustrade, and here, looking upward,

"Bosomed high in tufted trees,
Towers and battlements he sees."

The banks of the stream are finely fringed with foliage; beyond them are larger trees; upon the rising ground in the rear grow lofty and venerable chestnuts, oaks, and elms; and over this superb foreground, rises up, grand and colossal, the huge pile of grey stone, softened by the effects of time, and the rich masses of climbers that hang like floating drapery about it. For a few moments you lose sight of it, and the carriage suddenly stops before a high embattled wall, where the porter answers the knock by slowly unfolding the massive iron gates of the portal. Driving through this gateway you wind through a deep cut in the solid rock, almost hidden by the masses of ivy that hang along its sides, and in a few moments find yourself directly before the entrance front of the castle. Whoever designed this front, made up as it is of lofty towers and irregular wall, must have been a poet as well as architect, for its composition and details struck me as having the proportions and congruity of a fine scene in nature, which we feel is not to be measured and defined by the ordinary rules of art. And as it rose up before me, hoary and venerable, yet solid and complete, I could have believed that it was rather a magnificent effort of nature than any work of mere tools and masonry.

In the central tower opened another iron gate, and driving through a deep stone archway, I found myself in the midst of a large open space of nearly a couple of acres, car-

peted with the finest turf, dotted with groups of aged trees and shrubs, and surrounded on all sides by the castle walls. This is the inner court-yard of the castle. Around it, forming four sides, are grouped in the most picturesque and majestic manner, the varied forms and outlines of the vast pile, partly hidden by the rich drapery of ivy and old mossy trees. On the most sheltered side of the circular walk which surrounds this court-yard, among many fine evergreens, I noticed two giant *Arbutus* (a shrub which I have vainly attempted to acclimatize in the northern States,) more than thirty feet high, with trunks a couple of feet in diameter, the growth of more than 200 years.

On the south side of this court lies the principal mass of the castle, affording an unbroken suite of rooms 333 long. At the north-east, Cæsar's tower, built in Saxon times,—the oldest part of the whole edifice, whose exact date is unknown—which rises dark, gloomy and venerable, above all the rest; while at the south-east stands the tower built by the great WARWICK—broader and more massive, and partly hidden by huge chestnuts. The other sides are not inhabited, but still remain as originally built,—a vast mass of walls with embattled parapets broken by towers with loopholes and positions for defence—but with their sternness and severity broken by the tender drapery of vines and shrubs, and the luxuriant beauty of the richest verdure.

In the centre of the south side of this noble court-yard, you enter the castle by a few steps. Passing through the entrance hall, you reach the great hall, vast, baronial and magnificent—the floor paved with marble—and the roof carved in oak. Along the sides, which are pannelled in dark cedar, are hung the armor and the weapons of every age since the first erection of the castle. I was shown the leather shirt, with its blood-stains blackened by time, worn by an ancestor of the

present earl, who was slain at the battle of Litchfield, and many other curious and powerful weapons used by the great warriors of the family through a course of centuries.

On either side of this hall, to the right and left, in a straight line, extend the continuous suite of apartments. The first on the right is the anti-drawing-room, the walls crimson and gold; next, the cedar drawing-room—the walls richly wainscoted with wood of the cedar of Lebanon; third, the great drawing-room, finely proportioned and quite perfect in tone—its walls delicate apple-green, relieved by a little pure white, and enriched with gilding; next, Queen Anne's state bedroom, with a superb state bed presented to the then Earl of Warwick, by that queen, being antique, with tapestry, and decorated with a fine full length picture of Queen Anne; and beyond this a cabinet filled with the choicest specimens of ancient Venetian art and workmanship. Behind the hall is the chapel, and on the left the suite is continued in the same manner as on the right. Of course a good deal of the furniture has been removed from time to time, and large portions of the interior have been restored by the present earl. But this has been done with such admirable taste that there is nothing which disturbs the unity of the whole. The furniture is all of dark wood, old cabinets richly inlaid with brass, old carved oaken couches, or those rich mosaic tables which were brought to England in the palmy days of the Italian states. Everything looks old, genuine and original. The apartments were hung with very choice pictures by Van Dyck, Titia and Rubens—among which I noticed a magnificent head of Cromwell, and another of Queen Mary, that riveted my attention—the former by its expression of the powerful self-centered soul, and the latter by the crushed and broken-hearted pensiveness of the countenance—for it was Mary at 40, just before her death—

still beautiful and noble, but with the marks in her features of that suffering which alone reveals to us the depth of the soul.

Not to weary you with the interior of what is only the first floor of the castle, let me take you to one of the range of large, deep, sunny windows which lights the whole of this suite of apartments on their southern side. Each window is arched overhead and wainscoted on the side, and as the walls of the castle are 10 to 12 feet thick, each window above 8 feet wide, it forms almost a little room or closet by itself. And from these windows how beautiful the landscape! Although we entered these apartments by only a few steps from the level of the court-yard, yet on looking from these windows I found myself more than 60 feet above the Avon, which almost washes the base of the castle walls on this side, winding about in the most graceful curve, and losing itself in the distance among groups of aged elms. On this side of the castle, beyond the Avon, stretches away the park of about a thousand acres. As far as the eye reaches it is a beautiful English landscape, of fresh turf and fine groups of trees—and beyond it, for several miles, lie the rich farm lands of the Warwick estate. There are few pictures more lovely than such a rural scene, and perhaps its quietness and serenity, were enhanced by contrast with the sombre grandeur of the feudal court-yard where I first entered.

Passing through a gate in the castle wall, I entered the pleasure grounds, and saw in the orangery or græen-house, the celebrated Warwick vase—the giant among vases. It is a magnificent mass of marble, weighing 8 tons, of beautiful proportions, of which reduced copies are now familiar to us all over the world. It was brought from the temple of Vesta, and is larger than I had been led to believe, holding nearly two hogsheads. It is also rather more globular in form, and more

delicate in detail than one would suppose from the copies.

In the pleasure grounds my admiration was riveted by the “cedar walk”—a fine avenue of cedars of Lebanon—that noblest of evergreens—some sixty feet high, a tree which in its stately symmetry and great longevity, seemed a worthy companion of this princely castle. But even the cedar of Lebanon is too short lived, for the two oldest trees which stand almost close to the southern walls of the castle, and which are computed to be about five hundred years old—gigantic and venerable in appearance—have lately lost several of their finest branches, and are evidently fast going to decay. It was striking to me to see, on the other hand, how much the hoary aspect of the outer walls of the castle were heightened by the various beautiful vines and climbers intermingled with harebells, daisies and the like, which had sprung up of themselves on the crevices of the mighty walls that overhang the Avon, and sustained by the moisture of its perennial waters, were allowed to grow and flower without molestation, though everything else that hastens the decay of the building is jealously guarded against.

If anything more were wanting to heighten the romantic interest of this place, it would be found in the relics which are kept, partly in the castle, and partly in the apartments at the outer portal, of the famous GREY, EARL OF WARWICK, who lived in Saxon times, and whose history and exploits heretofore always seemed as fabulous to me as those of Blue-Beard himself. Still, here is his sword, an enormous weapon six feet long, which it requires both hands to lift, his breast-plate weighing fifty-two pounds, and his helmet seven pounds. The size of these, (and their genuineness is beyond dispute,) shows that he must have been a man whose gigantic stature almost warrants the belief in the miracles of valor which he performed in battle—as an

enormous iron "porridge pot" of singular clumsy antique form which holds 102 gallons, does any amount of credulity as to the digestive powers necessary to sustain the Colossus who slew all the dragons of his day.

While I was at Warwick, I ascended on a fine moonlight evening, the top of the highest tower, commanding the whole panorama of feudal castle, tributary town, and lovely landscape. It would be vain to attempt to describe the powerful emotions that such a scene and its many associations, under such circumstances, awakened within me; but I turned my face at last, westward, toward my native land, and with uplifted eyes thanked the good God, that, though to England, the country of my ancestors, it had been given to show the growth of man in his highest development of class or noble, to America has been reserved the greater blessing of solving for the world the true problem of all humanity—that of the abolition of all castes, and the recognition of the divine rights of every human soul.

This neighborhood is equally beautiful to the eye of the picturesque or the agricultural tourist. I was shown farms on the Warwick estate which are let out to tenants at over £2 per acre—and everywhere the richness of the grain-fields gave evidence both of high cultivation and excellent soil. The chief difference, after all, between an English rural landscape and one in the older and better cultivated parts of the United States, is almost wholly in the universality of verdant hedges, and the total absence of all other fences. The hedges (for the most part of hawthorn,) divide all the farm-fields, and line all the roadsides—and even the borders of the railways, in all parts of the country. I was quite satisfied with the truth of this conjecture, when I came, accidentally, in my drive yesterday, upon a little spot of a few rods—where the hedges had been destroyed, and a temporary post and rail fence, like those at home, put in

their place. The whole thing was lowered at once to the harshness and rickety aspect of a farm at home. The majority of the farm hedges are only trimmed once a year—in winter—and therefore have, perhaps, a more natural and picturesque look than the more carefully trimmed hedges of the gardens. Hence, for a farm hedge, a plant should be chosen that will grow thick of itself, with only this single annual clipping, and which will adapt itself to all soils. I am, therefore, confirmed in my belief, that the buckthorn is the farmer's hedge plant for America, and I am also satisfied that it will make a better and far more durable hedge than the hawthorn does, even here.

Though England is beautifully wooded, yet the great preponderance of the English elm—a tree wanting in grace, and only grand when very old, renders an English road side landscape in this respect, one of less sylvan beauty than our finest scenery of like character at home. The American elm, with its fine drooping branches, is rarely or never seen here, and there is none of that *variety* of foliage which we have in the United States. For this reason (leaving out of sight rail fences,) I do not think even the drives through Warwickshire so full of rural beauty as those in the valley of the Connecticut—which they most resemble. In June our meadows there are as verdant, and our trees incomparably more varied and beautiful. On the other hand, you must remember that here, wealth and long civilization have so refined and perfected the details, that in this respect there is no comparison—nothing in short to be done but to admire and enjoy. For instance, for a circuit of eight or ten miles or more here, between Leamington and Warwick and Stratford-on-Avon, the roads, which are admirable, are regularly sprinkled every dry day in summer, while along the railroads the sides are cultivated with grass,

or farm crops or flowers, almost to the very rails.

The ruins of Kenilworth, only five miles from Warwick, have been so often visited and described that they are almost familiar to you. Though built long after Warwick castle, this vast palace, which covered (including the garden walls,) six or seven acres, is entirely in ruins—like most of the very old castles in England. The magnificent suites of apartments where the celebrated EARL of LEICESTER, the favorite of Elizabeth, entertained his sovereign with such regal magnificence, are roofless and desolate—only here and there a fragment of a stately window or a splendid hall, attesting the beauty of the noble architecture. Over such of the walls and towers as are yet standing, grows however, the most gigantic *trees* of ivy—absolutely *trees*—with trunks more than two feet in diameter, and rich masses of foliage, that covered the hoary and crumbling walls with a drapery so thick that I could not fathom it with an arm's length. When the ivy gets to be a couple of hundred years old, it loses something of its vine-like character, and more resembles a gigantic laurel tree, growing against and partly hiding the venerable walls.

In the ancient pleasure grounds of Kenilworth—those very pleasure grounds whose alleys, doubtless ELIZABETH and LEICESTER had trodden together, I saw remaining the most beautiful hedges of old gold and silver holly—almost (to one fond of gardening) of themselves worth coming across the Atlantic to see—so rich were they in their variegated glossy foliage, and so large and massive in their growth. As these ruins are open to the public, and are visited by thousands, the keepers find it to their account to preserve, as much as possible, the relics of the old garden in good order, though the palace itself is past all renovation.

In this neighborhood, at a distance of eight

miles, is also that spot dearest to all who speak the English language, and all who respect human genius, Stratford-on-Avon. The coachman who drove me thither from Warwick Castle, and whose mind probably measures greatness by the size of the dwelling it inhabits—volunteered the information to me on the way there that it was “a very smallish, poor sort of a house,” that I was going to see. As I stood within the walls of the humble room, little more than seven feet high, and half a dozen yards long, where the greatest of poets was born and passed so many days of his life, I involuntarily uncovered my head, and felt how much more sublime is the power of genius, which causes this simplest of birth places to move a deeper chord in the heart than all the pomp and external circumstance of high birth or heroic achievements, based as they mostly are, upon the more selfish side of man's nature. It was, indeed, a very “smallish” house, but it was large enough to be the home of the mightiest soul that England's sky ever covered.

Not far distant is the parish church, where SHAKESPEARE lies buried. An avenue of lime trees, singularly clipped so as to form an arbor, leads across the churchyard to the porch. Under a large slab of coarse stone lies the remains of the great dramatist, bearing the simple and terse epitaph composed by himself; and above it, upon the walls, is the monumental bust which is looked upon as the most authentic likeness. It has, to my eye, a wooden and unmeaning expression, with no merit as a work of art—and if there is any truth in physiognomy could *not* have been a likeness—for the upper lip is that of a man wholly occupied with self-conceit. I prefer, greatly, the portrait in Warwick Castle—which shows a face paler and strongly marked with traces of thought, and an eye radiant with the fire of genius—but ready with a warm, lighting glance, to read the souls of others.

I write you from London, where I have promised to make a visit to SIR WILLIAM HOOKER, who is the director of the Royal Botanic Garden at Kew, and have accepted

an invitation from the DUKE OF NORTHUMBERLAND to see the fine trees at Sion House.

Yours most cordially, A. J. D

London, July 29, 1850.

DROOPING TREES.

BY P. BARRY, ROCHESTER, N. Y.

THE peculiar gracefulness and elegance of drooping trees, render them of great importance in the embellishment of landscapes. Whether appropriately grouped, or scattered singly on a lawn, they are equally capable of producing the most charming effects. They are also peculiarly appropriate for planting rural cemeteries, for forming natural arbors, and various other rustic decorations. The rapid growth of taste throughout this country, in regard to ornamental planting, improvement of cemeteries, &c., induce me to believe that trees of this character will soon be much sought for, and that a brief notice of a few desirable kinds might not at this time be unseasonable.

THE WEEPING WILLOW is the most familiar example of this class of trees, and is so well known as to require no description. Everywhere, unless in the extreme north, where it is too tender, it is cultivated and admired as the most graceful of all trees. Its long slender flowing branches, falling in profusion perpendicularly from the summit of the tree to the ground, make it the most striking example of the *graceful* to be found in the vegetable kingdom. All civilized nations esteem it as one of the most fitting ornaments for cemeteries; and both sacred and profane writers have thrown around it a multitude of interesting and melancholy associations, that harmonize admirably with its organic character.

I shall never forget the impression made

upon my mind, on one occasion, by these trees. In approaching the Jersey shore, in the month of June, from the ocean, after a long and tedious voyage across the Atlantic, the first objects that attracted my attention were some large and beautiful specimens of the Weeping Willow, scattered along the shore, apparently close to the water's edge. It was the right season of the year; they were in the right place, and I in the best possible mood to appreciate their beauty, for I had seen not a green leaf for six long dreary weeks. They appeared to me, at that moment, as surpassing in beauty the most extravagant descriptions of the trees of Paradise. Our appreciation of any object depends materially on the frame of mind we happen to be in when it presents itself; sometimes a circumstance, in itself quite trivial, will reveal to us, in some particular scene or object, a thousand beauties that had before been entirely hidden from us.

THE COMMON WEEPING ASH is another drooping tree, pretty widely known and cultivated. Its branches are not slender and thread-like as the willow, but rather stiff, spreading at first horizontally, and gradually drooping as they increase in length, until they reach the ground. It is a unique object, standing singly on a lawn; makes an admirable support for climbing roses or honeysuckles, and is one of the best of trees for forming arbors. In London, in 1848, I saw a beautiful arbor, made of two trees of Weep-

ing Ash, over the entrance to two elegant mansions, fronting on St. James Park. The branches were extended in a perfectly horizontal direction, thickly interwoven, and covering a great space—at least 30 or 40 feet in every direction. It at once occurred to me that such arbors would be great acquisitions to many of those elegant streets of dwellings in the upper part of the city of New-York, in the neighborhood of Washington Square. In many cases, there is just about space enough between the house and street for such an arbor; and I think that no disposition could be made of it that would contribute more to the beauty of the houses, and comfort of the proprietors or occupants.

When grafted on strong stocks it grows rapidly, frequently making shoots five or six feet in length. A little tree, grafted at eight feet from the ground three years ago, has now a dense top spreading on each side of the trunk six feet, covering an area or circle of twelve feet in diameter in that time.

THE GOLD BARKED WEEPING ASH is a new and interesting variety, with golden yellow bark, which is brightest, and shows to the best advantage in the winter. It is propagated in the same way, grows as freely, and succeeds every way as well as the preceding. I have seen it planted much in some districts in France; and it begins to attract some attention in England.

Centiscifolia pendula—lens-leaved weeping ash—is a new variety, with long, slender, quite pendulous branches, of a dark brown colour, sprinkled with gray dots, and leaves pointed at both ends in form of a lens. I think this will be rather the most graceful weeping variety of the ash. It is propagated same as the others.

THE WEEPING LINDEN—(*Tilia alba pendula*.)—This is a beautiful drooping variety of the Linden, with large, roundish leaves, gray underneath. The branches spring out

from the trunk in an almost horizontal direction; and as they increase in length, the ends bend over gracefully, giving a decidedly drooping character to the tree. The ends of the shoots are quite slender, and the leaves have longer petioles than is usual in the Lindens. The head is round, and quite symmetrical. All the Lindens bear the knife and shears well; and, therefore, I think this will prove an admirable tree for arbors, and other rustic fanciful decorations; and it will make a charming lawn tree, occupying an intermediate position between round stiff headed trees, as the Horse Chestnut, and flat headed drooping trees, like the Weeping Ash.

WEeping ELMS.—There are several fine European weeping varieties. The *Weeping Scotch Elm*, (*Ulmus montana pendula*.) is a variety with large leaves, and irregular, wide spreading and drooping branches. The *Weeping Smooth Leaved Elm*, (*Ulmus glabra pendula*.) is a very graceful drooping variety; leaves the size of the common elm, and smooth and shining on the upper surface. A specimen planted here four years ago, has now a fine spreading head, twelve or fifteen feet in diameter. *Ulmus superba*—new broad leaved elm—has a distinct drooping habit, and large luxuriant foliage, about the size of our Basswood or American Linden; the growth of this is quite rapid, and its appearance striking. *Ulmus viminalis*—or slender twigged elm—is a curious and distinct variety, contrasting strongly with the preceding; its branches are slender and pendulous, and leaves small and deeply toothed. It has quite as much the appearance of a Birch as an Elm.

All these pendulous varieties should be grafted on the common upright growing varieties, at such height from the ground as may be desired. The *American Weeping Elm* well deserves mention among drooping trees. It combines in its form both the ma-

jestic and the graceful to a greater extent than any of our native trees, and may well be compared to a noble and stately specimen of the genus *homo*, endowed by nature and education with all exterior and mental accomplishments. All over the country, on river bottoms and low lands, magnificent specimens are to be seen, with their stately and majestic trunks supporting a large spreading head, with its light drooping branches floating in the air. I can see two beautiful specimens from where I write, standing on a vacant city lot. It reproduces itself from seed without much, if any, variation.

THE NEW WEEPING BIRCH is one of the finest drooping trees. The old one is nearly as erect as a poplar, until quite old; indeed, one would suppose, to look at a young tree, that the name had been given ironically; but this new one is almost as pendulous as a willow, even while young. It should be grafted, or rather inarched, on the common sorts.

THE WEEPING BEECH is a very singular and beautiful tree, with strong, irregular drooping branches; should be inarched on tall standards of the common.

THE WEEPING JAPAN SOPHORA is one of the most beautiful weeping trees, with long, slender, green branches, and dark green, thick, dense, pinnate foliage, resembling that of the Yellow Locust in size and shape. It grows rapidly, and proves perfectly hardy in our climate. When grafted high on the common Japan Sophora, the branches hang down almost as gracefully as the willow; and in winter, its dark green bark is quite striking and pretty, contrasting strongly with the gold colour of the Ash and the red of the Linden. I saw, in the *Jardin des Plantes* at Paris, a beautiful specimen. It was in the winter, and its long, slender, green branches were trailing on the ground. Among all the novelties I found there, this was quite attractive.

THE WEEPING MOUNTAIN ASH is an in-

teresting new drooping variety, of the European Mountain Ash, from France.

THE WEEPING ALMOND—a new variety, with a distinct drooping habit, in which respect alone it differs from the common.

THE WEEPING OAK.—This is a singular and beautiful drooping variety of the Oak. The same season we imported, we set a graft in a common Oak some six feet high, and it made shoots that reached the ground the same season. The growth made since that is more erect; but it has really a fine drooping habit, and I think is one of the finest of this class of trees. The leaves are small, and deeply indented. Loudon, in his *Arboretum*, mentions a weeping oak, in Hertfordshire, with a trunk 75 feet high, with branches reaching from the middle of its height to within seven feet of the ground, and hanging down like cords—"many of them 30 feet long, and no thicker in any part than a common wagon rope."

THE DWARF WEEPING CHERRY, when grafted six or eight feet high, makes very pretty small lawn trees. Its leaves are small, and its branches are wiry and slender, and droop almost perpendicularly. The head is round and dense, more curious than beautiful, except in spring, when in blossom. There is a new large weeping cherry, which we have received from France; its branches are strong, and leaves large as the Heart cherries, and it produces fruit of fair quality. Its habit is quite drooping.

THE WEEPING CYTISUS are very pretty flowering lawn trees, with a graceful drooping habit. They are grafted, standard high, on the common laburnum. Somehow or other, we find it impossible, almost, to preserve them over two or three years.

Among *drooping evergreen trees*, I will mention only the DEODAR CEDAR, the HIMALAYAN SPRUCE, (*Abies morinda*), and our native HEMLOCK. The two first are recently

introduced, but prove perfectly hardy, and have, in the very earliest stages of their growth, a most graceful drooping habit. The Hemlock, everybody knows, but comparatively few know how beautiful it is when grown singly on a lawn. Its small Yew-like, dark green foliage, and drooping slender branches, make it one of the finest evergreen trees.

THE CRYPTOMERIA, or new Japan Cedar,

has also drooping branches; and if it *only* prove hardy, it will be decidedly the *most* graceful and elegant evergreen yet introduced. I have a little tree, planted out a year ago last June; it made all its growth late in the season, but, with a thin straw covering, it passed the winter safe, and is now growing away—only too fast, I fear. Another winter will decide.

*Mount Hope Garden and Nurseries,
Rochester, N. Y., August 7th, 1850.*

STRAWBERRIES—THEIR CULTURE, &c.

BY W. E. HOOKER. ROCHESTER, N. Y.

THE season having now quite passed for the enjoyment of this delicious fruit, it will perhaps appear somewhat out of place to introduce the subject at this time; but as this is the season when some persons prefer to make their new beds, I wish to make a few observations upon the cultivation of this berry, (justly a general favorite,) while the recollection of their beautiful forms and colours is quite distinct, and the taste of some favorite varieties scarcely gone from my mouth. If I shall thus induce some person, who has previously failed in procuring a good crop, to try again, with better success, I shall feel amply re-paid for my trouble.

In preparing the ground for planting, I do not consider it necessary to expend as much labor and manure as is commonly recommended; trenching, and the application of very large quantities of manure, is attended with more expense than many are able or willing to bestow, who would yet desire to enjoy the bounties of nature in their season, and who need not be deprived of them. As fine a crop as I have ever seen was raised upon soil only moderately rich, ploughed to the depth of a few inches at the time of planting, and no manure applied; but it re-

tained moisture admirably, and, although lying rather low, was not wet. The soil consisted of a mixture of clay and gravel.

If *very large*, rather than high flavored and excellent berries, are desired, resort must be had to high manuring and deep cultivation. I have never seen a fine crop of strawberries on sandy ground. In such situations, they almost always lack *moisture* at the time of ripening. Soil in which there is a pretty large proportion of clay, is preferable.

The various methods of cultivation which have been advocated by different writers, have all more or less merit; but their value depends much upon the variety which is cultivated. Some sorts produce a great many more runners than others; and if these are permitted to run together in beds, the plants become so numerous that there is neither sufficient moisture in the earth, nor a proper amount of air and light upon the leaves to mature the berries; of course, the plants wither and the fruit fails. Perhaps the cultivator declares this variety *poor*, and discards it; whereas, if he had cultivated the same in rows, three feet apart, and mulched the ground well between, the difference in the product would have convinced him, that the

only proper way to raise strawberries was in this manner.

Staminate varieties generally produce more runners than the pistillates; they should, therefore be set in *rows*, between *beds* of pistillates; and as our best and most productive varieties are found among the latter class, this arrangement is quite satisfactory. There are, however, some exceptions to the above rule; as, for example, the Large Early Scarlet (staminate,) which will produce fine crops in beds; and, on the other hand, the Crimson Cone multiplies so rapidly as to injure the crop, when planted in this manner; but generally the rule is a good one.

The Boston Pine (staminate,) is almost worthless, if allowed to grow in masses. A perfect proof of this occurred in our grounds this season. A bed about four feet wide and thirty long, which had produced one crop, was treated as follows: a strip about eight inches wide was left through the middle, almost the whole length; the rest of the plants for this distance were spaded under, and the runners kept off from the row thus formed, while about four feet of one end of the bed remained untouched. This summer the crop upon the row was enormous,—the plants being literally loaded with splendid fruit,—while in the bed at the end, a great number of little, dry, worthless berries testified most unequivocally to the want of water.

I ought to say that the first picking of Boston Pine comprised nearly all that were of any value; the late ripening berries did not fill out well. This remark, however, applies with more or less force to all the large fruited staminate varieties,—the pistillates being, as a class, much superior in this respect.

The Red and White Alpines are another example of the utter worthlessness of some valuable sorts, when cultivated in beds. If these are kept in hills, where they have an

unfailing supply of moisture, the product will go far to convince the skeptic of the truth of the Stoddard story. Both of these varieties will produce a surprising amount of berries, if cultivated in this manner.

There is, in the mind of the community, a great and growing partiality towards fruits of native origin. In this feeling, I too participate, and fancy that I see just cause for it, in some of our new varieties of strawberries. The most productive, high flavored and hardy varieties, now cultivated, are of native origin; and prominent among these, are some of the varieties recently introduced and raised by Mr. BURR, of Columbus, Ohio. His new Pine is unequalled, in my estimation, by any other berry for family use. The skin is rather too delicate for a market fruit. Some other varieties, originated by Mr. BURR, have proved very valuable in some respects; as, for example, Scarlet Melting—*exceedingly productive*, but rather tender flesh, and not of high flavor; Columbus—*beautiful*, very *productive*, &c. But time and trial must determine their real value.

A few notes upon well known varieties, and I must close this already too long article.

* Boston Pine proves with us very productive when grown in rows, and of good size, but decidedly inferior flavor.

Black Prince—large size, beautiful, and very prolific, but inferior in flavor, and rather watery this season.

Hovey's Seedling—very large, beautiful, bears good crops, but of second quality.

Burr's New Pine—large, beautiful, and fine flavored, produces excellent crops of rich and sweet berries.

* Cushing—very large, hard and productive, but lacking richness and high flavor.

* Large Early Scarlet—medium size, very productive, and one of the best and earliest varieties; good for marketing.

* Staminate, or perfect flowers.

Hudson—medium size, firm fleshed, fine colour, and good flavor; excellent for market; bears well in beds.

Crimson Cone—a beautiful and fine flavored late variety, very vigorous; should be cultivated in rows.

We have tested a large number of varieties the present season; but the above are some of the best. A considerable number of seedlings have also borne with us, for the first time, this year—some of them quite promis-

ing; but further trial is necessary before I could say that they are valuable.

The most productive varieties this season, have been Scarlet Melting, Boston Pine, Black Prince, and Burr's New Pine. There does not seem to be much difference in the amount of fruit produced.

The best, to *my* palate, are Burr's New Pine, Large Early Scarlet and Hudson; and for a late berry, Crimson Cone; but tastes differ.

H. E. HOOKER.

THE ZINFINDAL GRAPE.

BY DR. A. S. MONSON, NEW-HAVEN, CONN.

IN the review of the doings of the Fruit Convention, in the June number of the Horticulturist, speaking of the Zinfindal grape, you observe that it was stated by Mr. Parsons, of L. I., and Dr. Monson and Mr. Gabriel, of New Haven, to be better adapted to culture in the open air, in Connecticut, than the Isabella, which on referring to the printed report of the Convention, you will see is an error; but it is a very venial error, as it can be easily corrected, and would have been corrected before but for my not seeing that number of your paper in season.

In your July number, Chas. Robinson, Esq., late Vice President of the N. H. Hort. Society, and now my successor in office, seems to have taken useless pains to impugn a statement which he has taken for granted to have been made by me.

He says "our Secretary, Mr. G., did not thus misrepresent that fruit, as I am assured from his own lips. In fact he never cultivated it except under glass, and that for one year." I can assure Mr. Robinson that neither Mr. Parsons nor Mr. Monson ever did thus misrepresent that fruit; and to convince your readers that we did not misrepresent it, I will

refer them to the Convention's report, and this also shows that we were not so misunderstood by the reporter. The subject of native grapes had just been discussed before the Convention, and Mr. Parsons proposed to add to the list for cultivation under glass, the Zinfindal, and observed, "it was a well known hot-house grape, but succeeded perfectly well in the open air." "Mr. Downing was sceptical on this point, when Dr. Monson observed there was no difficulty with it out of doors. That it was better than most in the open air, and not apt to mildew. He had cultivated it for ten years, and knew but one season when it did not ripen well, and then the Isabella did not come any where near it in ripening." As Mr. D. was doubtful, on hearing Mr. Parsons, my remarks tended to corroborate what Mr. Parsons had said, and were only a plain statement of what had been my own experience in ten years out-door culture of this grape.

I had no aim or pretension of thinking to supercede the Isabella by this or any foreign grape, for out-door culture. The Zinfindal and all foreign grapes, require more care than the Isabella. It is true most grapes pay for

extra care, but we know the Isabella will bear some crop when on good ground, even when neglected, which probably no foreign grape will do in our climate, and the Isabella has for this and many other reasons, a preference for general culture.

Mr. R. observes that "it is passing strange the fact (my high estimate of this Z. grape,) should not have transpired here among my associates in horticulture, &c., and that not a whisper had ever been heard from me of so high estimation of this fruit."

It is not at all surprising that after such reflections as these, coming from any respectable quarter, you should be puzzled as you say in your note, and wish to hear what Dr. M. will say. If Mr. R. intends to say that not a whisper had been heard of what I deny ever having said, he is right. But there is abundant proof that I have not failed, both before he was connected with the N. H. Hort. Society, and since, to manifest my high estimation of this variety of grape, and the gentlemen at our pomological meetings, that is, those who often attended them, have frequently had their sight and taste gratified with this fruit. A number of the gentlemen of the Hort. Society are and have been, successfully cultivating them, and appreciate them both for open culture and under glass. The bunches exhibited by me at the Fruit Convention, some of them weighing one pound and a half, were the product of open culture.

Two years since I gave vines to some of the officers of the American Institute—to Gen. Talmadge, the President, and others—who it is likely, will soon test their value for city culture.

I have on a small plot of ground, ten or twelve varieties of foreign grapes—and not one of them bears so soon after transplanting, or grows so vigorously, or bears so freely as the Zinfindal.

I obtained this grape formerly of Mr. W.

Kenrick, of Newton, Mass., having requested him to procure me the best grape, all things considered, Boston afforded, and he obtained this of Mr. Perkins, to supply the order. I have cultivated it both in and out of a grape house ever since. The fruit out of doors, this season looks the best.

Some years ago I planted roots of it in a distant part of my grounds, and had to protect them with nets, from birds, but afterward built a second grape house, both to protect them and cultivate some other kinds with them.

I have no interest to subserve in this communication, dearer to me than the cause of truth.

"Amicus Plato, amicus Socrates, sed major amica, veritas."

Very respectfully yours,

ALFRED S. MONSON.

New-Haven, Ct., July 23, 1850.

P. S. I beg leave to state that I resigned the office of President of the New-Haven Horticultural Society the last spring. I do this through the medium of your publication, no notice of it having been given in any other paper.

A. S. M.

TO DR. MONSON—DEAR SIR: The Zinfindal grape which you gave me, answered your recommendations and my expectations. The next year after it was planted in my garden, it produced grapes which took the first premium at the Hort. Society's exhibition, for foreign grapes cultivated in the open air. It was as early as the first of October, if not the last week in September. It was planted in sand dug from a cellar, manured with compost made of wood ashes and peat. I think it more productive than any foreign grape I have cultivated. I have cultivated the Miller's (Purple Madeira,) since the year 1799. I esteem it a good grape, but less productive than the Z. Yours with esteem

ELI. IVES.

HORTICULTURAL WHEEL-BARROW.

BY W. R. COPPOCK, BUFFALO.

ON horticultural subjects, I am happy to perceive a liberality of expression on all matters pertaining to both the theory and practice, not frequent with other branches of knowledge. This is as it should be. Heretofore there may have been some *hocus-pocus*—some great secret, known only to the trade, and by them carefully retained. Those times have passed. With the dawn of the "Horticulturist," the science and practice has become "*pro bono publico*;" and he who possesses a secret hastens to proclaim it, lest it may be anticipated, and in this wise shorn of his honors. Thus it is with one I shall now describe.

Who—that cultivates ever so small a garden,—a few, or many trees,—that grows his own *sars*, or *truck*—knows not the value of the chamber-wash—the suds on washing days—and other slops, too often thrown in the wrong place, to produce stench and pestilence, which, otherwise applied, would produce luxuriance, luxury and gold? A moment's reflection will satisfy any understanding mind, that the amount of fertilizing matter thus generally lost, would be sufficient to sustain the annual draft of vegetable growth of a tolerable sized garden; the application of which brings into use the horticultural wheel-barrow. The wheel is 28 inches in diameter, and 6 inches in breadth, made of steamed board, with eight spokes, reduced from the width of the felloe to 2 inches at the hub—made also of inch stuff—and tired on either edge with common hoop iron.

The sides (*handles*), 6 feet long, and 3½ inches wide, rounded neatly at the handles, are made of 1½ inch stuff. These are to be mortized, to receive two sliding cross bars of

the same width and thickness, placed at the distance of the circumference of the barrel to be used, and of any required length for expansion. The cross bars, being perforated at each end by half a dozen holes, are held in place by moveable iron pins. The barrels, to be used for depositing the slops, &c., are to have substantial cleets screwed upon the staves, to act as rests upon the barrow sides, and to be provided with a hinged lid.

In order to load, loosen the pins of the cross bars, and elevate the handles, at the same time expanding the sides over the barrel, which, when brought down, clasps the barrel under the cleet, when the pins are put in to fit. Legs are to be put to the side in the usual way—but shorter, somewhat, than the distance from the cleets downwards, and without a cross bar; so that the weight of the barrel, when down, rests upon the ground.

The advantages of this barrow are manifold. The breadth and size of the wheel permits its use in soft soil, with far less labor or injury. It can, by having a moveable platform,—held in place by the pins of the cross bars, or dowels,—be used for general garden purposes; and for rolling seeds which have been drilled in, it is the handiest thing imaginable, as it can be weighted to any desirable purpose. It will, too, on a pinch, supply the place of a roller for a small lawn. This, then, is the horticultural wheel-barrow, which enables us to dispense, with so little trouble, the wash of the house to the remote parts of the garden, &c.

A suggestion, as to the nature of these slops, and the strength at which they may be applied, may, to many readers, be necessary.

Chamberlye is in fact the *urate* of commerce, and contains largely soluble, saline and earthy salts; among which are urea, sulphates of soda and potash, phosphate of ammonia, phosphate of soda, earthy phosphate, uric acid, &c., rendering as rich and stimulating food for plants generally as guano. By mixing the soap suds, &c., about five parts to one of the lye, and permitting a slight fermentation to take place, it is fit to use at all times. When applied to trees, avoid pouring it near

the stock—according to size. Should the barrel prove offensive, a quart or two of charcoal dust thrown into it corrects it instantly, even at mid-summer.

A few applications of these slops during the growing season to trees—forest or fruit—grapevines, vegetables or grass, has an astonishing effect in producing vigor, rapid growth, dark, lustrous foliage, and great fruitfulness.

W. R. COPPOCK.

Long Sight Place, Buffalo, N. Y.

ROUGH NOTES FROM THE WEST.

BY JOHN A. KENNICOTT, OF NORTHFIELD, (LATE THE GROVE,) ILLINOIS.

THE August Horticulturist is here, and reminds me that I have not sent off my contingent of unlettered thought. I had written a long article from texts suggested by your rich and varied correspondence, when the thought struck me that I was trenching upon ground already occupied, by one infinitely my superior in force as well as taste, tact, and "time" for critical analysis and remark. Even his little personal flatteries are very sweet, and his hard hits quite pardonable. Next to the discontinuance of the Horticulturist, I should regret the absence of his downright and sensible monthly comments. We cannot spare a soul from this field, much less you, Mr. JEFFREYS.

But this is all needful courtesy. What were social or literary intercourse without these little graces—these kindly compliments—a garden without flowers—a desert without a well. For one, I freely acknowledge that I love to give and to receive a truthful compliment. A timely and genial shower of praise, often causes a rich crop of good things from a doubtful mind, and a great one from a great but retiring soul. Long live graceful and disinterested flattery—long live HOPE—for these

are the food of creative genius, and like the soft dews of heaven upon the thirsty plant, they cheer and invigorate the mind. So much to kindly feelings and grateful acknowledgments: now to my notes of a recent tour through central Illinois.

I left Chicago on the evening of the 4th of July, by canal. Let a horticulturist visit our LOCKPORT, and he will see how the taste of the individual may become engrafted upon a whole community. This is a village of gardens and fruit yards; and here I may remark, once for all, that throughout a journey of near fifteen hundred miles—wherever I found orchards and gardens, tasty buildings and well cultivated farms—*there* I was sure to hear of some person who had inoculated those around him, with a taste for these things.

It was part of my business to call at every post-office, and I was curious to know the number of agricultural publications received; and I was soon enabled to predict, with much certainty, the answer of the postmaster, as well as the net proceeds of his office, by observing the character of the husbandry, the appearance of the school-houses, and especially the horticulture of the region round about.

Good taste in rural matters—scientific agriculture and successful horticulture, are, throughout the land, commensurate with the dissemination of agricultural and horticultural publications. There may be a few exceptions to this rule, but the great truth cannot be denied, and needs not the proofs from my note book to establish its importance.

Gentlemen, we are *not* throwing away our efforts. We who write, as well as those who add example to precept, are doing much good; we shall have our reward in the success which is following our pleasurable labor. The poorly paid publisher, and the professional editor, are the only ones whose reward is inadequate, for they must have bread as well as fame, and the consciousness of benefits conferred.

We are silently, but surely operating upon the masses. Ours is a science that all can comprehend, and most may learn; and when once initiated, the subject never grows old—the interest never flags. The love of flowers, of fruit trees, and delicious fruits, is a perpetual spring to the mind—a never failing source of enjoyment, and refining and humanizing employment. Who ever heard of a practical horticulturist afflicted with ennui? Who has known a genuine one that was either a bad or an unhappy man? Let us work on, and ‘hope on; there is a good time coming,’ and with an Agricultural Bureau, which we shall get, friend JEFFREYS, we will organize societies through the whole interior of our land, and where we cannot persuade persons to subscribe for journals, or purchase books, because they “are too poor,” perchance, we will see if we cannot induce government to do so, or otherwise furnish the necessary information—the scientific knowledge—which is the entering wedge to burst the bonds of ignorance and prejudice, and let in the good seed which we scatter, soon to germinate, and sure to spread a halo of promise around the unsightly and oft-deteriorating farm-house that

shall cover its nakedness, as the mantle of spring covers the bleak prairie, and “brouse old forest.”

From the commencement of the high banks, or “bluffs,” on the northerly side of the river, below Joliet, begins one of the finest localities for “THE VINE,” in northern Illinois. The southerly exposure, and the dry, rich soil, reaching often almost or quite to the lime rock, (which here crops out,) the perfect drainage and other concomitants will, one day, make this the vineyard of the lake region.

This is not all mere theory—there are grapes in many gardens, and Mr. H. L. BUSH, of Ottawa, has now quite a vineyard in full bearing. The Catawba grape, which with me, has heretofore been rather uncertain, was there, finer if anything, than the Isabella. Mr. B. is also largely engaged in raising sweet potatoes for the Chicago home market, on the rich bottom land at the base of the bluffs. I saw much good taste, and many choice flowers and fine fruits, in the gardens about Ottawa, especially those of Messrs. CUSHMAN and REDDICK.

Near the termination of our canal, I saw the first peaches—not a degree south of here—and from this point south, I saw plenty of this fruit. But the plum is everywhere destroyed by the curculio.

Above Peoria I first saw, in damp, open woods, in half-shaded prairies, a beautiful herbaceous Spirea—perhaps the *lobata*, about five feet high, with dense panicle of white flowers, on a rich pink, or purplish peduncle, very delicate and showy.

In this region, there is, too, an abundance of that odd little plant, the “Dutchman’s pipe,” (*Aristolochia*,) the trumpet creeper, (*Tecomia radicans*,) the Michigan rose, and other vines and creepers of the greatest luxuriance, gracefully festooning the beautiful second growth of shrubs and trees, which are everywhere springing up on the outskirts of

groves and wooded streams, as the annual prairie fires are restrained in their ravages.

Indeed, the increase of timber is most astonishing, and truly encouraging to those who look to our state as one day supporting a population as dense as that of Massachusetts. If JEFFRIES could now traverse our state, he would see the effects of a little foresight and care. I note that wherever there were signs of timber having once existed on the prairies, there are now fine dense groves springing up, some of which already afford poles for building and fencing purposes, and in another fifteen or twenty years, may be of great account to the prairie farms. I think that in many places, there is now nearly double the area covered with trees that there was fifteen years ago.

And then, in the midst of our broadest prairies, you see large groves and long avenues of the rapidly growing locust, planted by our wide awake New England settlers. The Delavan prairie, for example, which I crossed when I first visited this region, and where, if I remember right, we traveled twenty-four miles without meeting tree or shrub, is now graced by several groves, and mile long avenues, where most needed—along the highway.

On the prairies, the yellow *Rudbeckias* (the *fulgida*) are still abundant and extremely gay—the tall purple ones are all going out of bloom. The rich pink spikes of the *Dracocephalum*, (Dragon head,) and the more showy species of *Liatris*, are flowers of August and September, and well worthy of introduction in the “wild flower border.”

The trees which I would advise my western friends to plant out, and which are nearly everywhere abundant, a degree south of here, are, in addition to maple and elm, the “red bud,” (*Cercis canadensis*), the “coffee tree,” (*Gymnocladus*), the black walnut, and butter-nut, and the red or black mulberry. The three

last soon yield abundance of fruit, as well as shade. I deem the native mulberry one of our finest trees. When planted out, the top becomes dense, rounded and graceful—the leaves are very large and rich, sometimes entire, though generally more or less lobed. They present a most striking appearance, and then the fruit is the earliest, except the strawberry, and has just sufficient tartness to redeem it from the insipidity of the others of this genus, and it is certainly very wholesome, if not so very palatable.

There is one other very rich fruit tree, of small size, that occurs everywhere, which I have found rather impatient of removal to a distance—I mean the paw-paw. But those living near it, can, doubtless, transplant it with safety and success.

The orchards of central Illinois are not so frequently met with, as I could wish. Still, there are many old ones, composed principally of seedling apples, and peaches, and the universal sour, hardy, morello cherry.

The fruit crop in this region will be a large one. Wherever I found pear trees, I found them loaded with fruit. I saw some quite forest like, in Springfield, said to be *engrafted*, though doubtful, which the owner, (Dr. TODD) assured me were generally great bearers.

My friend, EDSON HARKNESS, of Peoria county, has near one thousand bearing apple trees, and quite a number of large worked pears, which I shall leave him to describe—though I assure you, the fruit promise was decidedly the richest I ever saw in any country, and his “Rhenish grapes” were in heaps instead of clusters.

That the banks of the Illinois river and the smaller streams, especially the Kickapoo and Macinaw, near Peoria, are bound to be covered with vineyards, ere ten years have passed, I can scarce doubt; and that VINE GROWING will do more for the cause of TEMPERANCE than all the societies in the world, I have long

believed, and once had the hardihood to declare, in a long rambling essay under the title of "TEMPERANCE AND THE VINE."

ISAAC UNDERHILL, Esq., eighteen miles above Peoria, has five hundred acres in orchard. He has in the last two years planted out 12,000 apples, *all engrafted*, and 7,000 peach trees, of which, as I gather, about 16,000 or 17,000 are doing well. He is, however, like all of us, troubled with the small native caterpillar, which renders orchards, and even wild groves and forest trees, most unsightly objects. But the caterpillar may be destroyed, though there is another thing of more consequence to mention—a sort of "blight," perhaps identical with "pear-tree blight." Here at the north, it is principally confined to the quince—further south, from

one-eighth to one half of the tops of apple trees are involved—the entire new and some inches of the old wood, *black and dead*. People will tell you that a "worm" has done this; but I fear it is one about as tangible as the "insects that cause cholera"—an undiscovered elemental influence.

I did wish to say something about hedges, in which praise-worthy interest our own persevering PROFESSOR TURNER, is doing more good to his kind, and more credit to his own great abilities, than when he was hammering the "*dead languages*" into "*dead heads*," in Illinois college. But as I have sent off four sheets of this paper, (I never copy,) I may repeat what I have already said, and shall certainly tire you, if not your readers.

Northfield, August 8th, 1850.

"A FEW WORDS TO BEGINNERS."

BY WM. BACON, RICHMOND, MASS.

I was exceedingly pleased with an article by Mr. BEECHER in a late number of the Horticulturist, entitled "A Few Words to Beginners," and would recommend that it be read again and again by every one of your readers; and then let the publisher of every country paper give it a conspicuous place in his hebdominal, and if it does not, in this way, reach every family, (we do not know of a single family in which there is not some member who may profit by its contents,) let it be posted conspicuously in every garden, at the corner of every street, where flower-mongers and would-be flower-growers are wont to pass or to congregate, that they may read as they run, and profit without cost.

Mr. BEECHER's article is full of truths, to which every observer must most heartily respond. Spring comes with its gentle gales, its soft showers, and warm sunbeams. Vege-

tation awakes under its influence into life, and arrays the forest and the field, the hill-side and the meadow, in freshness and beauty unsurpassed. Trees of foliage of varied forms, and flowers of hues more various than their names, greet the eye, then the mind, and arouse the sensibilities, wherever the eye wanders, or the soul seeks new fountains of delight, or the warmer emotions of the soul are awake to the noble and beautiful in nature's workmanship. It is no wonder that in such a season, when inspiration is abroad in everything, that her soft breathings enter into the soul of man, and warm it up in the ardor of affection. It is no marvel that, as he sees the trees and shrubs dressed in the freshness of beauty, and the flowers smile forth in the morning light, arrayed in all the gaudy pencillings that nature can invent, that he is anxious to gather all these treasures around

him, so that the eye may drink in their charms. When the morning light rests upon them in their dewey freshness, or at eventide, when the toils of the day are ended, they greet him with kind salutations to drive dull care from his mind, and excessive anxiety from his soul, to fit him for the repose and reviving rest which exhausted labors actually demands.

We believe this love of flowers and trees, and things of the natural world, to be one of the instincts of our nature,—a principle born within us at our birth, and one that grows with our growth; and if it does not gain strength with the strength of our wisdom, we are very much mistaken. Not that we would make it a ruling passion, and have the energies of life devoted to them, and nothing else; for this, from the very nature of our necessities, would not, in all cases, be right. It is no wonder, then, if these principles of nature receive a revivifying influence in that season, when all around awakes from dormancy and inaction, and that the million go and witness the desolations that their own negligence has occasioned, and then go forth among the more careful, and of course more successful, in search of something to *fill up* the waste places. This is often done with a rush. The fever is high; something *must be done this year*; and away they go to begin. Without knowledge or experience, they seek for variety. Ah! that is it; so many kinds of roses—native, foreign, hardy, half-hardy, tender—no matter what; such a plant from China, and such a one from the Cape of Good Hope. They are certainly very nice. “Mrs. Such-an-one raises them to perfection, and I’m sure I can. I’ll try in earnest this year.” A fine lot is collected; but our enthusiast must go a little further down street, to add to the accession. “I’ll just lay them down here a *short* time, until I return;” and the plants, poor things, with their roots just taken from the cool, moist earth, are laid upon a

sunny bank for safe keeping, until their bark shrinks from its scorching rays; or perhaps they are permitted to lie on the ground, unprotected, through a frosty night. “It won’t hurt them, I presume, though I’d rather they had been set out; but Mr. Butterfly came in, and in my hurry I forgot them. He’s so *very* interesting! who can wonder?”

Gentle reader, we are not dealing in romance, for we have seen (and who that lives in the country and raises plants for their own gratification, ever willing to give duplicates to those who will take care of them, has not,) just such operations performed. Yes, we have known those who as much depended on having their stock renewed each spring, as they did on having “the time of singing of birds” come round. Such never can succeed. It is no wonder they do not. Their plants are ruined before they are introduced to their grounds. And even if they were not, they would soon be after they got them there; for they are used as though they were of iron, jammed into the earth—perhaps very hard earth—and left to grow or die; and die they must—die they will, in nine cases out of ten, until, at last, the very grave conclusion is adopted, that “our soil is not favorable to the growth of plants. I never could have any luck with them; and, though I admire them, I have given up trying to raise them altogether.”

Now, to this class “of would-be cultivators,” we would recommend a careful re-reading of Mr. BEECHER’S article; and we say with him, in the first place, prepare your ground. In the second place, commence with a few plants, and let these be of hardy habits. In the third place, set them in such localities—shady or exposed, warm or cool, damp or dry—as their habits and constitutional character requires. In setting, be careful to give the roots an easy, natural position, with a plenty of loose, friable earth to run in.

And, lastly, *see that they are duly taken care of when planted*; for after cultivation improves their character as well as it does the crops in the fields, which no one would expect to see flourish without continued anxious care. Having succeeded once, success becomes more certain in the future. It is the progenitor of its own kind. It creates observation, and profits by experience; and when its effects are seen in cultivating hardy plants, aided by these, it will enable the cultivator to venture on new and untried experiments with those of more feeble habits and sensitive characters, until accessions are made, astonishing even to the operator's own senses.

Have we made it a laborious and painstaking operation? We admit and claim that it is right that it should be. Man was never made to be a slothful, inactive, unthinking lump of humanity; but by a wise provision of his maker, labor of body and mind are essential to the health of each; and it is by a union of the efforts of the two, that he is to work out his own temporal happiness. The flower that one's own hand has cultivated,

possesses, as well it may, peculiar beauties and rare fragrance. When industry and skill have carried that flower to the highest perfection, his soul feels enlarged, and an enjoyment—such as never cheered up the soul of the sluggish or the heedless one—rouses him to new impulses and greater triumphs. Have you seen the sickly, feeble, straggling plant, with a few leaves, and those falling prematurely to decay, put on the foliage of health and beauty, and change its rough and uncertain form for one of symmetry and elegance? And know ye not that labor and skill alone have done it, and that all the regrets and idle wishes that the heart could pour out, never could have effected it? And is there no reward in this labor also? Yes; and it is the rich reward of making nature subservient to your wishes—of triumphing over her deformities—of introducing beauty—which will please “the eye, which is never tired with seeing,” and gladden the heart of man, in their place.

WILLIAM BACON

Richmond, August 5, 1850.

A PLEA FOR AMERICAN TREES.

FROM MISS COOPER'S "RURAL HOURS."

It is to be feared that few among the younger generation now springing up will ever attain to the dignity of the old forest trees. Very large portions of these woods are already of a second growth, and trees of the greatest size are every year becoming more rare. It quite often happens that you come upon old stumps of much larger dimensions than any living trees about them; some of these are four, and a few five feet or more in diameter. Occasionally, we still find a pine erect of this size; one was felled the other day, which measured five feet in diameter. There is an elm about a mile from the village seventeen feet in girth, and not long since we heard of a basswood or linden twenty-eight feet in circumference. But among the trees now standing, even

those which are sixty or eighty feet in height, many are not more than four, or five, or six feet in girth. The pines, especially, reach a surprising elevation for their bulk.

As regards the ages of the larger trees, one frequently finds stumps about two hundred years old; those of three hundred are not rare, and occasionally we have seen one which we believed to claim upwards of four hundred rings. But as a rule, the largest trees are singled out very early in the history of a settlement, and many of these older stumps of the largest size have now become so worn and ragged, that it is seldom one can count the circles accurately. They are often much injured by fire immediately after the tree has been felled, and in many other instances decay

has been at work at the heart, and one cannot, perhaps, count more than half the rings; measuring will help, in such cases, to give some idea; by taking fifty rings of the sound part, and allowing the same distance of the decayed portion for another fifty. But this is by no means a sure way, since the rings vary very much in the same tree, some being so broad that they must have sensibly increased the circumference of the trunk in one year, to the extent, perhaps, of an inch; while in other parts of the same shaft you will find a dozen circles crowded into that space. In short, it is seldom one has the satisfaction of meeting with a stump in which one may count every ring with perfect accuracy. It is said that some of the pines on the Pacific coast, those of Oregon and California, have numbered nine hundred rings; these were the noble Lambert pines of that region. Probably very few of our own white pines can show more than half that number of circles.

It is often said, as an excuse for leaving none standing, that these old trees of forest growth will not live after their companions have been felled; they miss the protection which one gives to another, and, exposed to the winds, soon fall to the ground. As a general rule, this may be true; but one is inclined to believe that if the experiment of leaving a few more, were frequently tried, it would often prove successful. There is an elm of great size now standing entirely alone in a pretty field of the valley, its girth, its age, and whole appearance declaring it a chieftain of the ancient race—the “Sagamore elm,” as it is called—and in spite of complete exposure to the winds from all quarters of the heavens, it maintains its place firmly. The trunk measures seventeen feet in circumference and it is thought to be a hundred feet in height; but this is only from the eye, it never having been accurately ascertained. The shaft rises perhaps fifty feet without a branch, before it divides, according to the usual growth of old forest trees. Unfortunately, grey branches are beginning to show among its summer foliage, and it is to be feared that it will not outlast many winters more; but if it die tomorrow, we shall have owed a debt of many thanks to the owner of the field, for having left the tree standing so long.

In these times, the hewers of wood are an unsparing race. The first colonists looked

upon a tree as an enemy; and to judge from appearances, one would think that something of the same spirit prevails among their descendants at the present hour. It is not surprising, perhaps, that a man, whose chief object in life is to make money, should turn his timber into bank notes with all possible speed; but it is remarkable that any one at all aware of the value of wood, should act so wastefully as most men do in this part of the world. Mature trees, young saplings, and last year's seedlings, are all destroyed at one blow by the axe or by fire; the spot where they have stood is left, perhaps, for a lifetime without any attempt at cultivation, or any endeavor to foster new wood. One would think that by this time, when the forest has fallen in all the valleys—when the hills are becoming more bare every day—when timber and fuel are rising in price, and new uses are found for even indifferent woods—some forethought and care in this respect would be natural in people laying claim to common sense. The rapid consumption of the large pine timber among us, should be enough to teach a lesson of prudence and economy on this subject. It has been calculated that 60,000 acres of pine woods are cut every year in our own State alone; at this rate, it is said that in twenty years, or about 1870, these trees will have disappeared from our part of the country! But unaccountable as it may appear, few American farmers are aware of the full value and importance of wood. They seem to forget the relative value of the forests. It has been reported in the State of New-York, that the produce of tilled lands carried to tidewater by the Erie canal, in one year amounted to 8,170,000 dollars' worth of property; that of animals or farm-stock, for the same year, is given at \$3,230,000; that of the forests, lumber, staves, &c., at \$4,770,000. Thus the forest yielded more than the stock, and more than half as much as the farm lands; and when the comparative expense of the two is considered, their value will be brought still nearer together. Peltries were not included in this account. Our people seldom remember that the forests, while they provide food and shelter for the wildest savage tribes, make up a large amount of the wealth of the most civilized nations. The first rude devices of the barbarian are shaped in wood, and the cedar of Lebanon ranks with the gold of Ophir

within the walls of palaces. How much do we not ourselves owe to the forests as regards our daily wants! Our fields are divided by wooden fences; wooden bridges cross our rivers; our village streets and highways are being paved with wood; the engines that carry us on our way by land and by water, are fed with wood; the rural dwellings without and within, their walls, their floors, stairways, and roofs, are almost wholly of wood; and in this neighborhood the fires that burn on our household hearth are entirely the gift of the living forest.

But independently of their market price in dollars and cents, the trees have other values; they are connected in many ways with the civilization of a country; they have their importance in an intellectual and in a moral sense. After the first rude stage of progress is past in a new country—when shelter and food have been provided—people begin to collect the conveniences and pleasures of a permanent home about their dwellings, and then the farmer generally sets out a few trees before his door. This is very desirable, but it is only the first step in the track; something more is needed; the preservation of fine trees, already standing, marks a further progress, and this point we have not reached. It frequently happens that the same man who yesterday planted some half dozen branchless saplings before his door, will to-day cut down a noble elm, or oak, only a few rods from his house, an object which was in itself a hundred fold more beautiful than any other in his possession. In very truth, a fine tree near a house is a much greater embellishment than the thickest coat of paint that could be put on its walls, or a whole row of wooden columns to adorn its front; nay, a large shady tree in a door-yard is much more desirable than the most expensive mahogany and velvet sofa in the parlor. Unhappily, our people generally do not see things in this light. But time is a very essential element, absolutely indispensable indeed, in true civilization; and in the course of years we shall, it is to be hoped, learn further lessons of this kind. Closer observation will reveal to us the beauty and excellence of simplicity, a quality as yet too little valued or understood in this country. And when we have made this further progress, then we shall take better care of our trees. We shall not be satisfied with setting out a dozen naked

saplings before our door, because our neighbor on the left did so last year; nor cut down a whole wood within a stone's throw of our dwelling, to pay for a Brussels carpet from the same piece as our neighbors's on the right; no, we shall not care a stiver for mere show and parade, in any shape whatever, but we shall look to the general properties and fitness of things, whether our neighbors to the right or the left do so or not.

How easy it would be to improve most of the farms in the country by a little attention to the woods and trees, improving their appearance, and adding to their market value at the same time! Thinning woods and not blasting them; clearing only such ground as is marked for immediate tillage; preserving the wood on the hill-tops and rough side hills; encouraging a coppice on this or that knoll; permitting bushes and young trees to grow at will along the brooks and water-courses; sowing, if need be, a grove on the bank of the pool, such as are found on many of our farms, sparing an elm or two about the spring; with a willow also to overhang the well; planting one or two chestnuts, or oaks, or beeches, near the gates or bars; leaving a few others scattered about every field to shade the cattle in summer, as is frequently done, and setting out others in groups, or singly, to shade the house—how little would be the labor or expense required to accomplish all this, and how desirable would be the result! Assuredly, the pleasing character thus given to a farm and a neighborhood, is far from being beneath the consideration of a sensible man.

But there is also another view of the subject. A careless indifference to any good gift of our gracious Maker shows a want of thankfulness, as any abuse or waste betrays a reckless spirit of evil. It is, indeed, strange that one claiming to be a rational creature should not be thoroughly ashamed of the spirit of destructiveness, since the principle itself is clearly an evil one. Let us remember that it is the Supreme Being who is the Creator, and in how many ways do we see his gracious providence, his Almighty economy, deigning to work progressive renovation in the humblest objects, when their old forms have become exhausted by time! There is also something in the care of trees which rises above the common labors of husbandry, and speaks of a generous mind. We expect to wear the fleece from our flocks,

to drink the milk of our herds, to feed upon the fruits of our fields; but in planting a young wood, in preserving a fine grove, a noble tree, we look beyond ourselves to the band of household friends, to our neighbors—aye, to the passing wayfarer and stranger who will share with us the pleasure they give, and it becomes a grateful reflection that long after we are gone, those trees will continue good to our fellow creatures for more years, perhaps, than we can tell.

Quite recently, two instances of an opposite character connected with this subject, have accidentally fallen under our notice. At a particular point in the wilds of Oregon, near the banks of the Columbia River, there stood a single tree of great size, one of the majestic pines of that region, and long known as a landmark to the hunters and emigrants passing over those solitary wastes. One of the expeditions sent out to explore that country by the government, arriving near the point, were on the watch for that pine to guide their course; they looked for it some time, but in vain; at length, reaching the spot where they supposed it ought to have stood—a way-mark in the wilderness—they found the tree lying on the earth. It had been felled, and left

there to rot, by some man claiming, no doubt, to be a civilized being. The man who could do such an act would have been worthy to make one of the horde of Attila, barbarians who delighted to level to the ground every object over which their own horses could not leap.

Opposed to this is an instance less striking, but more pleasing, and happily much nearer to our own neighborhood. Upon the banks of the Susquehanna, not far from the little village of Bainbridge, the traveller, as he follows the road, observes a very fine tree before him, and as he approaches he will find it to be a luxuriant elm, standing actually in the midst of the highway; its branches completely cover the broad track, sweeping over the fences on either side. The tree stands in the very position where a thorough-going utilitarian would quarrel with it, for the road is turned a little out of its true course to sweep round the trunk; but in the opinion of most people, it is not only a very beautiful object in itself, but highly creditable to the neighborhood; for, not only has it been left standing in its singular position, but as far as we could see, there was not a single mark of abuse upon its trunk or branches.

ARCHITECTURE OF COUNTRY HOUSES.

[FROM THE HOME JOURNAL, NEW-YORK.]

[In the absence of Mr. DOWNING, the publisher of the Horticulturist deems it not improper to transfer to its pages, from Messrs. Willis & Morris' Home Journal, the following notice of Mr. D's. new work.]

He is a fortunate man who, on entering this world, finds the place manifestly designed for him by Providence; and thrice happy is he who, in his own day and generation, is recognized as the person for whom the vacant niche was waiting.

Mr. DOWNING, of Newburgh, on the Hudson, is an illustration of this idea. He is the author of a work bearing the above title—an octavo volume of some five hundred pages, just published, in this city, by Appleton & Co. He is the well known editor of the *Horticulturist*, the very best publication of its

class in the country; and the author of a beautiful work entitled "Designs for Cottage Residences," and of a Treatise on Landscape Gardening, as well as other valuable books.

The subject of architecture in the country had attracted very little attention, until about the time when Mr. Downing made his appearance. The *new* had by no means worn off of the new world. The *clearings* had been made—the first struggle with mother earth for food had been successfully accomplished—the log cabin era had nearly passed by—and people in the settlements and villages had fairly entered upon a style of architecture which might well be termed the *barn* style—the main features of which seemed to be *squareness*, *hugeness*, and most *un-fig-leaved nakedness* of all external decoration. The backwoodsman's first love—a *clearing*—was the

foreground and background of the scene. This, however, was only a step in a transition to a better state of things. The desolation wrought by the first settlers upon the grand old forests was felt as almost a sacrilege, when once accomplished, and to their children came gentler feelings, prompting them to restore, in the more delicate and graceful forms of artificial groves and lawns, the beauty they had lost. And soon, also, the feeling came, that something more than the shelter which the caves and hollow trees afford to brutes, should be found in the homes of their wives and children; that there was, indeed, a harmony between loveliness of form and character, and a purifying influence in the presence of the beautiful creations of Art, as well of Nature, akin to the worship of the Most High. The splendid works of ancient art—the temples of Greece and Rome—the Baronial castles of the *old* world—were not unknown to the possessors of the *new*; but hundreds of splendid failures had demonstrated how utterly unsuited to their wants and condition were such models, in unskilful hands. The absolute necessity of being rid of the chilling, comfortless, ungainly dwellings, which satisfied neither the physical wants nor the demands of good taste, soon induced a change in rural architecture, almost magical. In this, as in all other matters in America, there was no half way. There must be a full vibration of the pendulum. Suddenly, on all sides, sprung up *cottages*. Families from the cities, accustomed to spacious and luxurious apartments, must retire to the country in summer, and spend their dog-days in what our author has aptly termed *cocked-hat* cottages—little three cornered affairs, of about the size of band-boxes, all gables, and fringes, and spires; and whole Melroes and Sweet Auburns of Grecian and Gothic playthings, looking, as Dickens well said, like children's toys, just finished and set out to dry, became visible at one shake of the kaleidoscope. Downing's "Cottage Residences," doubtless, had some share in bringing about the sudden change referred to, and it was a vast improvement on what had preceded. His cottage designs were adopted everywhere, and generally *improved* till they were ruined; for there was a *gimp-trimming* mania pervading everything, at the time—warring against the simplicity of nature and refined taste.

Having, in a very few years, knocked their heads and elbows sufficiently against projecting corners and the sloping roofs of attics, to become painfully conscious that the "human form divine" does not fit comfortably into acute angles, our good people were just convinced that they had made one more mistake. And while they thus stand doubting, conscious of their own inability to supply the want so universally felt—knowing just enough of architecture to detect blunders and bad taste everywhere, and ready, gladly, to acknowledge a master—they suddenly find by their side a plain, unaffected, earnest man, who chimes in, at once, with their feelings, who understands precisely their difficulties, who encourages their enthusiasm for the works of nature, and the ideal of art, of which they had begun to be somewhat ashamed, and quietly points out, in a plain, practical way, the very things they so much wanted to know.

Ruskin's "Seven Lamps of Architecture" is a splendid work of genius; but its author must wait more than one generation to see it fully appreciated. You might as well substitute a volume of Emerson's Transcendental Philosophy for the multiplication table, for the use of the youngest class in *ciphering* in a town school, as Mr. Ruskin's book for the simple, practical work before us, for the use of our good citizens. The question put by the mathematician to the sculptor, in regard to the beautiful creations of his art—"What do they go to *show*?"—will be likely to be often asked in reference to the Seven Lamps; while Mr. Downing's treatise, with no *flaming* title, will shed quite as much light on its subject, as the newly opened eyes of this generation are able to bear.

The present work does not profess to be strictly scientific. Like all Mr. Downing's writings, it is characterized by a wonderful combination of plain common sense with great enthusiasm, and a thorough appreciation of the beautiful in nature, art and science. He seems to have a peculiar conception of the *fitness of things*. The cockneyism that builds a "four story brick" in the country, and furnishes it in the style of Broadway or Beacon street, hides its diminished head beneath the scrutiny of his practiced eye. "The sin of ignorance," manifested so often by erecting for a rural dwelling a classic Temple of Minerva, twenty feet square, and two-thirds of

that portico, he "winks at," to be sure; but it is with a very knowing wink, with one eye only!

With a few sensible suggestions, he relieves the country greenhorn from the embarrassing idea that he is obliged, in order to be respectable, to furnish his house like the mansion of his city friend, and puts our wives in excellent spirits, by showing them drawings of furniture appropriate for their best apartments, at a moderate cost. Then he makes us perceive how much more graceful and homelike our houses will seem, ornamented with a few pictures, or fine engravings, or pieces of statuary, instead of costly mirrors and gilded cornices, and giving us, in passing, a glimpse of its proper *surroundings* of lawns, spotted, here and there, with groups of trees and shrubbery, leaves us with the consoling impression that our means, which were sadly deficient for the prevailing mode, are ample for the gratification of true taste.

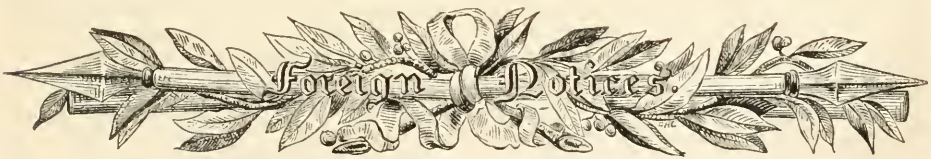
And so, one soon gets on a very agreeable intimacy with our author. He is not a man to quarrel with, for he lays down no inflexible rules. True, he gives you the best plans for all sorts of convenient buildings; but then he modestly suggests that your peculiar wants may require modifications, which you are ex-

pected to make, and very likely makes you forget that you are under any obligations whatever, to him. And in matters of taste, he is usually so obviously correct, that you are half inclined to believe that the same ideas he suggests would have occurred to you, without his assistance. In short, the present volume answers precisely the wants of the times.

The elegant introductory essay upon the Beautiful, the True and the Useful in Architecture, may be commended to the attention of refined and cultivated minds, for its literary merit alone, had it no other; while the "word fitly spoken," upon the various points of art, science, taste, as well as domestic economy, involved in its subject, renders the work invaluable to all engaged in building. Mr. Downing is, emphatically, as a friend of ours says, to express his highest approbation of another, *one of us*—a man to whom his countrymen owe much, and to whom they feel happy to acknowledge their obligations.

His writings should be read, not only by all who are building, but by all who *live in* houses. May he be long spared to "sit under his own vine and fig tree, with none to molest him or make him afraid."

N. H.



IMPROVEMENT IN BOTANICAL NOMENCLATURE.—When we drew attention, a few weeks since, to the state of botanical nomenclature, we suggested that our readers should favor us with their opinions upon the propriety of making some changes in it. We did so, not from entertaining the least doubt as to what the right course is, but for the sake of eliciting such expressions of opinion as would put us in possession of the views of those who are alone interested in the question. So far as mere technical science is concerned, the language of botany is good enough; for botanists understand it. The real question at issue is, whether it is adapted to familiar use? and, if not, whether it cannot be so adapted without any violent interference with usage or scientific convenience?

Very few men are or can be professed botanists; multitudes wish for such an acquaintance with botany as an important and highly interesting branch of science demands of the well informed; and there is a very large class of persons whose pursuits compel them to talk in the language peculiar to it. But this language is entirely foreign to English ears and English taste—uncouth, inelegant, and even barbarous. To remedy this, and to place it in such a condition that it may be an object of attraction to the educated multitude as well as to a few studious philosophers, has for many years been the aim of ourselves and others. Nor has our motive been even limited thus narrowly; on the contrary, we believe that it and other branches of natural history may be made a

valuable part of a villager's education; but, if that is to happen, natural history must wear an English dress. If it be of no importance to any one beyond the unlearned that plants should have English names, it is to THEM; and for them, at least, the battle is worth fighting.

Some perception of this necessity has evidently been felt, though unconsciously, even by those among whom are to be found the most uncompromising opponents of an English terminology. *Dicotyledones*, *Exogenæ*, *Cryptogamæ*, have already settled down as *Dicotyledons*, *Exogens*, and *Cryptogams*; just as *Mollusca*, *Pachydermata*, and *Mammalia* have become *Mollusks*, *Pachyderms*, and *Mammals*. Men now talk of *Conifers* instead of *Conifera*, and of *Orchids* instead of *Orchidaceæ* or *Orchideæ*. It is clear, therefore, that the current of opinion is setting steadily in a better direction; and there is no reason why it should move so slowly.

The view of this question taken by "Nomenclator," will probably prove to be the most generally acceptable. In the main he agrees with ourselves; but he pushes his fear of translated names much further. Conceding, as we fully do, that to translate into English the technical names of genera is upon the whole inexpedient as a rule, and to be avoided where possible, we cannot admit that the objection to it rests upon any other ground than that of inconvenience. English compound names are as fit for scientific purposes as Greek and Latin ones; but they cannot form part of that universal language which the convenience of science requires; and therefore they are inadmissible when foreigners have to be communicated with; and moreover, as we have already stated, they entail upon men of science the necessity of remembering two names instead of one, which is inconvenient when some hundred thousand such names have to be recollected. These are weighty reasons, and we admit their force; but we recognise no other reason. "Nomenclator's" translation of *MOTH-FACE* is surely as agreeable a name as *Phalanopsis*; although *MOTHOCHUS* would have been better; and we see little force in Mr. Owen's objections, if resting upon no better ground than a bungling *mis*-translation of *Dendrodus* into *SHRUB-TOOTH*. We may laugh at the absurdity, just as we should at translating *Oncidium cæcum* into *BLIND-HOOKEY*, as a facetious friend suggests; but such follies can form no part of a serious argument. We repeat, then, that we give up the translation of scientific proper names, because of the inconvenience, and for no other reason.

That is, however, no reason why we should not employ pure English names wherever we can without incurring that inconvenience; and we decline to acknowledge the propriety of calling a *Quercus* or a *Fagus* by any other name than those of Oak and Beech. *Bellis* must be Daisy, *Delphinium* Larkspur, *Aconitum* Monkshood,

Ranunculus Crowfoot, *Juglans* Walnut, *Caryæ* Hickory, and *Taraxacum* Dandelion, as long as the English tongue endures; and foreigners must learn the meaning of such words just as they learn the meaning of other words. It is quite as reasonable for us to say to a foreigner, "you, for our convenience, must learn that Willow is the English for *Salix*," as for him to say that we must know *Salix* to be the Latin of Willow for his convenience. And since Prof. Owen's authority has been introduced into the question, we must add that we claim him for a good witness on our own side. Let any one turn over the pages of his beautiful work on fossil reptiles, and see how sedulously he shuns the hard words of technical science wherever he can. He talks of the Gaval, the African Constrictor, Tiger-boia, Sea-snake, and common Snake, and not of *Gavialis Dixoni*, *Python regius*, *Python tigris*, *Hydrophis bicolor*, or *Coluber natriz*. Every one must, we think, desire that he had carried this further—substituting snakestone for ophiolite, and so on.

We remark that one of our correspondents is alarmed lest his *Crocuses* should degenerate into *Crokes*, and therefore he would compel people to go on for ever breaking their teeth against the angles of our Græco-Latin compounds. But his fears are groundless; *Crocus* is a name not likely to be disturbed; and if it were, the change would not be more disastrous than that of *Hyacinthuses* into *Hyacinths*. In spite therefore of this warning, we venture to recommend that on all possible occasions the technical proper names of science be adapted to our own tongue, where familiar names do not exist. It will be found an important means of diffusing a taste for natural history, and need not shock the sensibilities of the most tight-laced stickler for scientific formalism. *Calycanths* are as good as *Calycanthuses*, *Hyacinths* as *Hyacinthuses*, *Perymenes* as *Perymeniums*, and *Glossocards* as *Glossocardius*.

But while we recommend the abandonment of translations of technical proper names, we must insist upon what is the greatest point of all, the translation, wherever possible, of the adjectives used in the binomial system, and of all adjective terms whatsoever, for which English equivalents can be found. This is however opening a new and perfectly distinct question, for which we must crave a second hearing. *Prof. Lindley in Gard. Chronicle*.

LONDON HORT. SOCIETY'S EXHIBITION.—The most brilliant season in the annals of English horticulture was brought to a close the 13th of July by the third exhibition in the garden of the horticultural society, on which occasion there was such an assemblage of beautiful plants as no man ever saw before in the month of July. The last exhibition in the season has always hitherto been found much inferior to its predecessors; plants get out of condition; the races which decorate May and June fade and perish in July; gardeners have

less leisure, and zeal begins to flag. This must have been severely felt elsewhere, if we are to judge from the complaints that have reached us of shabbily filled tables, and poor uninteresting specimens. It was not however so at Chiswick, for which it is evident that gardeners had reserved with care what they wisely withheld from other places. We say wisely, because a judicious man will always prefer to submit his produce to the inspection of those who can best appreciate its merits—and reward it. We suspect it has been discovered that the favorable opinion of the residents in the rich quarters of the West of London is of infinitely more consequence to gardeners than that of the respectable inhabitants of the northern and eastern suburbs.

The skill exhibited in cultivating was in many respects highly instructive. We would particularly refer to some Cape Heaths (*E. metulæflora bicolor* and *Parmentieri rosea*;) from Mr. Epps, in which the effect of the unconfined air upon colour was most conspicuous. When compared with other specimens, the tints bore the same relation to each other as those of a sailor, fresh from a cruise, and a Manchester weaver, just released from the factory. Nothing could more conclusively confirm what we have so often insisted upon, that the greatest health attainable in plants is to be secured by the freest exposure to air. Colour is only a sign of health. If coloured flowers and fruit never come from plants in perfect condition. The want of ample air was no doubt the cause of the paleness of the fine Turmeric (*Curcuma cordata* and *Roscoeana*;) from Syon, in which the intense violet and scarlet colours natural to the flower leaves were scarcely observable.

A few novelties among Orchids mingled with crowds of well known favorites. Mrs. Lawrence produced the curved Angree (*Angræcum arcuatum*;) from the Cape of Good Hope, and a pale variety of the Insleay Odontoglot (*Odontoglossum Insleayi**) from which the brilliant colour of the spots was almost discharged. There was also a new Acinetæ, very near Barker's, from Mr. Skinner, and a white Moss Cattleya from Mr. Ivison.

Among other races, the Victoria Water Lily, from Syon, in the form of a beautiful flower, and two magnificent leaves, each five feet ten inches in diameter, was pre-eminent. The Java and saffron-coloured Ixoras (*I. javanica* and *crocata*) from Mrs. Lawrence were among the most brilliant bushes. A plant of the showy Medinilla (*M. speciosa*) from Mr. Farmer's gardener, was ripening its beautiful fruit, a result which Mr. Carson has we believe been the first to obtain. The elegant Pleroma, with its broad round flowers of Tyrian purple, was produced by Mr. Green, in proof that some at least of the Melastomads will retain their splendid petals long enough to render them objects of much value.

* This is no doubt an Odontoglot, and not an Oacid.

Of the newer plants the most remarkable was the Willow-leaved Ixora (*I. salicifolia*) from Messrs. Veitch, a charming stove plant with rich orange-coloured flowers. Less new and far inferior in colour, but most remarkable for the fantastic form of its flower, was the arched Leschenaultia (*L. arcuata*) from Lord Kilmorey's garden. A large plant of the Emperor Francis' Lehites (*E. Franciscea*) from Mr. Colyer's collection, showed that no gardening skill can make an ugly plant handsome.

The fruit was abundant, and in many cases very fine; but the unripe state of some of the grapes enabled inferior specimens to beat them. The most remarkable exhibition among this kind of fruit was a bunch of Black Hamburgh grapes, perfectly coloured, from Mr. Wilmot, of Isleworth, which formed part of a crop now ripe upon vines that were loaded with ripe fruit last February!

The beauty of the grounds of Chiswick-house, thrown open to the meeting by the noble President of the Horticultural Society, and a delicious day, enabled 7970 visitors to pass an afternoon in great enjoyment. *1b.*

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THE POTATOE DISEASE.—It is a very general opinion amongst those who have paid most attention to the potato disease, both in this country and on the continent, that two distinct diseases have often co-existed in the same plant or tuber, and doubtless many of the conflicting statements which have been put forth on the subject have derived their origin from this circumstance. Some, for instance, have asserted positively that the disease always commenced in the leaves; others, as undoubtingly, that the underground portion of the stem was the first to be attacked. Both opinions were probably right, but a different disease was the subject under investigation. We believe that during the last week a case has occurred to us illustrative of this subject.

Without making any assertion as to the origin of these affections, it may be assumed as a pretty well established fact, that the two diseases in question are characterised during some period of their development by the presence of a peculiar parasitic fungus, the true potato murrain by *Botrytis infestans*, and the other form of decay by *Fusarium Solani*; and it was stated by Mr. Berkeley, in his memoir on the potato murrain in the "Journal of the Horticultural Society," that he believed that a little mould, figured under the name of *Daetylium tenuissimum*, was the young state of the *Fusarium*, the *Daetylium* being very generally present in the same tuft with the *Fusarium*, both in British and foreign specimens, and the one, notwithstanding the great difference between extreme forms, running by imperceptible gradation into the other. The moisture of the last few days has favored the development of moulds in a very marked degree, and every plant

of ash-topped potatoes in our garden exhibits unequivocal marks of disease, in every case accompanied by the little *Dactylium*. The portion of the stem near the tubers is blotched with brown spots, which enter deeply into the substance, so that not above half the cells are in a condition to carry on the circulation. These spots soon spread to the strings, which are already greatly injured, and from thence to the surface of the tubers, which are brown and discoloured, though the decay is at present merely superficial. Upon the spots, whether on the tubers, strings, or base of the stem, the delicate white mould is distinctly visible, and the same mould is also present on the old sets.

It is to be observed that the affection is entirely distinct in appearance from that of the genuine potato murrain in its earliest stages, and would at once be pronounced to be so by any of our peasants. We cannot state positively that this is the commencement of the second form of potato disease to which we have alluded, as our observations have not been carried out to the full development of the affection; all that we assert is, that a malady, distinct from the potato murrain, does exist amongst potatoes, and evidently one of a serious nature, as every malady must be which destroys the tissues on which the perfect development of the plant and tuber mutually depends, and that this disease commences not in the leaves but in the lowest part of the stem. Some months may pass before the affection runs through its course, but we shall watch its progress with interest, in the hope of gaining some positive information on the subject. *Gard. Chronicle*.

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OBITUARY.—We regret to announce the death of the Rev. William Kirby, M.A., Rector of Barham, Suffolk, at that place, where he had resided 68 years, on Thursday, July 4, in the 91st year of his age.

Mr. Kirby was honorary president of the Entomological Society of London, president of the Ipswich Museum, and Fellow of the Royal, Linnean, Zoological, and Geological Societies, besides being honorary member of several foreign societies, and has left behind him an imperishable name as one of the first entomologists of this or any age. This title he would have assured to himself had he written no other work than his "*Monographia Apum Angliæ*," published in 1801, in two volumes, 8vo., in which, from materials almost wholly collected by himself, and the plates of which were mostly etched by his own hand (having taken lessons in the art for this express purpose,) he described upwards of 200 of the wild bees of this country, with a largeness and correctness of view as to their family (or as they are now considered, generic) divisions, that excited the warmest admiration of British and foreign entomologists. But when to this great work we add his other entomological labors—his numerous and

valuable papers in the "*Transactions of the Linnean Society*;" the "*Introduction to Entomology*," written in conjunction with Mr. Spence; the entomological portion of his *Bridgewater Treatise* "*On the History, Habits, and Instincts of Animals*;" and his description (occupying a quarto volume,) of the Insects of the "*Fauna Boreali-Americana*" of Sir John Richardson; it will be evident how largely and successfully he has contributed to the extension of his favorite science; and all this without encroaching in the slightest degree on his professional or social duties, for, while ranking so high as an entomologist, he was during his long life a most exemplary and active clergyman, beloved by his parishioners of all ranks, and one of the warmest of friends, and most simple minded, kind hearted, and pious of men. *Ib.*

NAMES OF PLANTS.—The importance of having all plants, including fruit trees, properly named, even in small gardens, cannot be too clearly pointed out. A plant may have beautiful foliage and flowers, but without a name it yields comparatively little interest. Every plant has a history of its own, and the first step towards obtaining a knowledge of that history is its name; the next its native country and year of introduction into our gardens. A garden of plants without names is like a library of books without their exterior superscriptions. Numbers are only useful to nurserymen. All garden plants should be properly named. The season of propagation is chiefly when plants are out of bloom, and the want of diligent care in retaining their names too frequently leads to a confused nomenclature. The vast numbers of new plants which are being continually introduced, as well as the host of garden varieties every year brought under the amateur's notice, is quite perplexing to him, unless constant attention to correct labelling is observed. Then, again, with regard to fruits, how much uncertainty would be removed by keeping labels of a permanent kind to every tree. Small gardens cannot, or ought not, to find room for indifferent kinds of fruits, or uncertain bearers, hence the importance and the advantage of knowing every kind we cultivate. How much trouble is thereby avoided! for it frequently happens that the difficulty and expense of obtaining the name of a single fruit are much greater than the attention necessary in keeping the names to the small collection which the limited space of a suburban garden admits.

With respect to the particular kind of label which it is most desirable to employ, there is a good deal of uncertainty. Some persons prefer some of the new kinds now in existence, while others adhere to the old wooden label, which, after all, has not yet been very satisfactorily superseded; whatever kind of material is employed, however, the names should be accurately and distinctly written. *Ib.*

VILLA AND SUBURBAN GARDENING—The object to be kept in view in arranging and planting a small garden is unquestionably variety. Attempting too much in any one particular branch leaves others either neglected or curtailed. It is true that every one has his own peculiar tastes and prejudices, and these necessarily interfere with the proper arrangement and division of the different parts of a garden; but it must be allowed that variety is the soul of gardening, and not less so in small than in large places. The peculiar taste of the proprietor should therefore, in some measure, be rendered subservient to the amount of pleasure which his family and friends are to reap from a proper distribution of subjects. When in flower a garden of roses alone is admitted to be beautiful. Few will be found to detract from the loveliness of the rose, but it would indeed be a morbid taste that could see no beauty in the rest of the vegetable kingdom. I apprehend, therefore, that the majority of those who delight in gardens—and who does not?—would prefer a continued succession of bloom in all seasons, so as to keep the eye always delighted, and the mind ever gratified. The business of the villa gardener then must be to consider well every step he takes; and every plant he commits to the soil should have been previously well weighed, and every point relating to its ultimate growth and effect maturely considered. The amateur is too apt to plant without forethought, and many of the objects he has looked forward to admire, are killed or smothered by others of more rapid and luxuriant growth. He should therefore know something of the dimensions plants are likely to attain. His little space requires great economy in the distribution of the subjects he cultivates, and much judgment in the selection of them; and therefore, instead of attempting to produce quantities of one kind of plant, to the exclusion of others, it would be wise and more satisfactory to limit the numbers of any particular kind, and thereby afford space for greater variety. He ought especially to avoid the too abundant introduction of rude growing plants; but, on the other hand, he need not confine himself to too small plants; these would produce a monotonous effect. A knowledge of the size which plants are likely to attain, together with the hints I have thrown out, may enable him to distribute his subjects so as to economise his ground, and, consequently, to produce a greater variety on the same space. *Ib.*

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FANCY GERANIUMS.—A correspondent (*T. W. T.*) inquires how he is to grow these beautiful and interesting plants, “such as *Anais*, *Queen Victoria*, *Ibrahim Pacha*, *Statueski*, *Reine de France*, *Bonquet tout fait*, &c.,; the time for inserting the cuttings; the soil; the temperature, top and bottom (if requisite); if to be cut down as other geraniums in the autumn; when to place them in their flowering-pots; the most approved

form to train to, so as to get them large, say from eighteen to twenty-four inches in diameter, and one mass of bloom; the difficulty consisting in the facts, that the plants root so much at the bottom of the pot, with very few roots at the sides, and show bloom in the earliest stages, when the plants are extremely small, and when the bloom buds are pinched off again forming them, instead of growth and wood.” As it has been deemed necessary that something more than a passing notice to these matters in the correspondent's column should be given, I shall be happy to render any little assistance in my power, merely premising that as there are now many beautiful varieties which I have not yet grown, the statements I may make will be freely open to emendations from those coadjutors and friends who may have had more kinds under their direct cultivation. I shall endeavor to meet the case, by making the inquiries the ground work of my remarks; and

First. The time in which to take off and insert the cuttings.—This may be effected at any period. A cutting of a ten-shilling geranium plant is not to be slighted at any time; autumn and spring, however, are the best periods for striking these fancy geraniums, and so far as present and ultimate success are concerned, the spring is better than the autumn; not but fine plants may be produced from autumn-struck plants, as from some of the free growing kinds we have had plants as large as that desired by our correspondent in the following summer; but then there is greater risk of failures and disappointments. The reason of this is owing to the difference in habit of these plants when contrasted with the other favorite, but more succulent-stemmed geraniums. In the case of the latter, it is requisite, both for the ensuring of the breaking of the old plant when cut down, and also for the producing of healthy young plants from the cuttings, that the shoots should be well matured, by exposure to sun and air, and a diminished supply of water for some time previously. Fancy geraniums, from their profusion of blossoms, their compact growth, and less succulent stems, require less of this *maturing* before the cuttings are removed; but if no attention to *maturing* the wood is given, then, in all likelihood, many of the cuttings will damp off at once; and even when they strike root they can only be preserved during the winter by keeping them in the most favorable circumstances, where all danger of damp and a stagnant atmosphere are provided against, by the ability to maintain when necessary a dryish atmosphere, and a temperature of from 40° to 45° in the coldest weather. If, on the other hand, the wood of the cutting is *over-matured*, that is, if its juices are highly elaborated, there is a likelihood that its organized material will be developed more in the production of bloom than of wood buds. This is still more likely to be the case if the young plants

have been *starved* during cold weather in winter, by being shut up and covered for days in cold pits. The diminutive character, instead of being *accidental*, has now become *constitutional*. The stem from being hard, and having its juices so thoroughly inspissated, is quite incompetent to act as the vehicle for the transmission of fluids that would be necessary for a large headed plant. As roots and branches act and re-act, relatively and co-relatively, upon each other, the stunted head is attended with few and diminutive root feeders. Of all stunted plants, there is nothing more discouraging than a stunted geranium. The cutting off the flowers, as our correspondent has done, will only prove a slight palliation of the evil;—though when persevered in, and other points of good culture are attended to, fine plants ultimately may be gained. What would be good culture for free growing plants, however, will not suit these stunted gentlemen: light rich soil is the thing in which they generally delight; but until you set the stuntedness adrift, you must use only the *light*, abjure the *rich*; employ small pots well drained, and keep the plants in a closer atmosphere than usual. Your object would sooner be gained by taking off a cutting or two, just in that state when the wood is neither soft nor thoroughly indurated. Properly treated, it will soon shoot ahead of the old plant. Cutting the plant down to the surface of the soil, if it has got any roots of consequence, will also be attended with more success than doctoring the stunted head. The plant should be kept close, rather dry than damp, until the fresh shoots appear; then shaken out, and re-potted in the usual way. Foresters are well aware of the benefit of acting upon this principle; they do not stand picking and cutting the miserable twigs of a stunted young oak, that scarcely gets larger by inches in a twelvemonth; they cut it off close to the ground, and in a year or two they have a clean luxuriant plant, such as the original would never have been. Cuttings taken off in July or August, stopped when struck, potted into small pots, stopped and re-potted again in October, and potted again in early spring, will make nice little bushy flowering plants the first summer; but if large fine plants are wanted, growth rather than bloom must be encouraged, by stopping and keeping the plants rather shaded, pinching back the tops, or cutting them down; removing the most of the soil, or only a portion, and repotting in July and August, just as the varieties are slow growing or the reverse, and early fine blooming plants will be obtained for spring and summer.

As we have said, however, we prefer spring-struck cuttings, as there is comparatively little danger of them getting into a stunted habit, and scarcely a cutting will fail of being made into a plant, while time will be saved. Cuttings may then be obtained from thinnings of the young shoots on established plants; or, better still, an old plant

stopped in the autumn, should be left on purpose. It will stand comparatively hard treatment during the winter, but in February or March it should be put gradually into a moist atmosphere, and a temperature of from 45° to 55°, or a few degrees more. As soon as the young shoots are from one and a half to three inches in length, they should be taken off close to the stem and properly treated; the strongest would bloom in the open air in summer if desirable; if potted, stopped, and re-potted in August, they would make nice little flowering plants during the winter, if a temperature not less than 45° is then given them, with fresh air. Similar plants—having their flower buds removed, the points of the shoots pinched out, the shoots themselves trained into the desired shape, and repotted in September—will make nice flowering plants in spring and summer. For the end of summer and autumn others should be repotted in March and April.

Soil, and a few matters essential to success in propagating.—The soil should be light and sandy, free from worms and insects; one part peat, one part leaf-mould, one-half part loam, one part pure sand, will answer admirably, with just an additional dusting of silver sand upon the surface; such a compost will neither be too close nor too open. If mere soil, &c., were present, the air would obtain too free an access to the base of the cutting when the compost became dry, and then the opposite evil would ensue from the moisture remaining too long around the cutting after watering, causing it to mould and decay. A similar effect would be produced by inserting cuttings, as some do, wholly in sand; enough air then would not be admitted, and thus a shanking-off would be liable to ensue, for the circumstances that would ensure the safety of a hard-wooded cutting would ruin a soft-wooded geranium. Then, if the cuttings are inserted into pots, these pots should be half filled with drainage, and the remaining portion with different layers of the prepared compost, reserving the finest for the surface. Before inserting the cuttings the pots should have been previously well watered, and the moisture allowed to drain away, as most of the waterings afterwards had better consist of sprinklings from the syringe. In early autumn, when the weather is still warm, and the sun's rays powerful, little or nothing in the shape of bottom heat will be required; but the cuttings should be placed at such a distance from the glass that they may enjoy the direct, though diffused, rays of light; this will prevent the necessity of shading much to prevent flagging. The more direct though somewhat diffused light they will stand, the sooner will roots be protruded, and the more sturdy and healthy will the plants become. Of course they would require to be placed nearer the glass as the power of the sun declines. Every hour's shading, however necessary it be at times, is just so far encouraging the mere expansion upwards of what

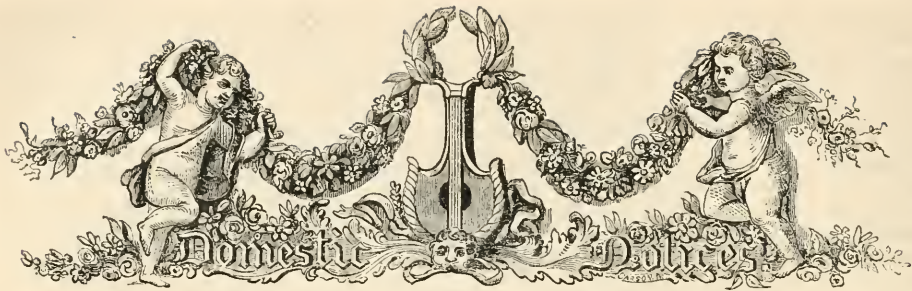
is contained in the cutting, without doing much for encouraging the protrusion of roots. In sunny weather they will require to be kept close, and receive frequent sprinklings from the syringe, to lessen their powers of evaporating their juices, but at night and morning air may be given, and the sashes at times wholly removed. When propagating in spring the same course may be adopted, with one or two exceptions. First, as the presence of sun at that period is not so much to be depended on as in the autumn, the cuttings should be placed pretty near the glass, and shading in bright weather resorted to when necessary, as otherwise, in long continued dull weather, the cuttings would become weak and spindled. And, secondly, as the cuttings had been slightly forced before their removal from their mother plant, a little mild bottom-heat, of from 60° to 80° , would be of great service to them, giving them a top temperature of from 50° to 60° . These, as we have already hinted, are the circumstances under which the finest plants are most easily produced.

R. Fish, in Cottage Gardener.

SOME ACCOUNT OF THE VICTORIA REGIA IN ITS NATIVE WATERS.—We at length reached the igarape, and were at once gratified by seeing the Victoria growing by the opposite shore of the igarape itself. We were warned by the people not to go amongst the plants, as their prickles were venomous; but I got both hands and feet considerably pricked without experiencing any ill effects. We were fortunate in finding the plant in good flower, but, according to the testimony of all at Santarem who have seen it, the leaves attain their greatest dimensions in the winter. Captain Hislop assures me he has seen many leaves 12 feet in diameter, whereas the largest we saw measured a very little above 4 feet across, and they were packed as close as they could lie. But I can easily conceive how, in the wet season, their dimensions should be considerably augmented, for whereas at present the plant is growing in less than 2 feet of water, in winter the igarape will be filled to its topmost banks, or at least 15 feet deeper than at present, while its breadth will also be greatly increased; so that the petioles of the Victoria, lengthening doubtless with the rise of the waters, will bring the leaves to a much greater surface, on which they will have room to dilate to about twice their present size. The aspect of the Victoria in its native waters is so new and extraordinary, that I am at a loss to what to compare it. The image is not a very poetical one, but assuredly the impression the plant gave me, when viewed from the bank above, was that of a number of tea-trays floating, with here and there a bouquet protruding between them; but when more closely viewed, the leaves excited the greatest admiration, from their immensity and perfect symmetry. A leaf turned up suggests some strange

fabric of cast-iron, just taken out of the furnace; its colour, and the enormous ribs with which it is strengthened, increasing the similarity. I could find no prostrate trunk, as in the other *Nymphæaceæ*. The root is central, the thickness of a man's leg, penetrating deep into the mud (we could not dig to the bottom of it with our tréados,) and sending out fascicles of whitish radicles, about 25, from below the base of each petiole, the thickness of a finger and 2 feet or more in length. The radicles are imperforate, and give out here and there a very few slender fibres. From the same root I have seen flowers uniting the characters of *Victoria regia* and *cruziana* (of the latter I have only the brief description in Walpers,) so that I can hardly doubt their being the same species, as had been already more than suspected. The igarape, where we gathered the Victoria, is called Tapiruari. I had two flowers brought to me a few days afterwards from the adjacent lake, which seems to have no name but that of the sitios on its banks. Mr. Jeffreys has also brought me flowers from the Rio Arrapixuna, which runs into the Tabajoz above Santarem, and in the wet season unites the Tabajoz and Amazon. I have further information of its growing abundantly in a lake beyond the Rio Mayaca, which flows into the Amazon some miles below Santarem. Mr. Wallace, who recently visited Monte Alegre, had a leaf and flower brought to him there; I have seen a portion of the leaf, which he dried. Lastly, I have correct intelligence of its occurring in the Rio Trombetas near Obidos, and in lakes between the river Tobajoz and Madeira, so that there can be no doubt of its being plentifully distributed throughout the whole of this region, both north and south of the Amazon." *Mr. Spruce's Voyage up the Amazon, in Hooker's Journal of Botany.*

INTERESTING EXPERIMENT.—Two hundred pounds of earth were dried in an oven, and afterwards put into a large earthenware vessel, the earth was then moistened with rain water, and a willow tree, weighing 5 lbs. was placed therein. During the space of five years the earth was carefully watered with rain water, or pure water; the willow grew and flourished; and to prevent the earth being mixed with fresh earth, or dust blown into it by the winds, it was covered by a metal plate, perforated with a great number of small holes, suitable for the free admission of air only. After growing in the earth for five years, the willow tree was removed, and found to weigh 169 lbs. and about 3 ounces; the leaves which fell from the tree every autumn were not included in this weight. The earth was then removed from the vessel, again dried in the oven, and afterwards weighed; it was discovered to have lost only about 2 ounces of its original weight; thus 164 lbs. of lignin, or woody fibre, bark, roots, &c., were certainly produced—but from what source?



AMERICAN POMOLOGICAL CONGRESS.—The next session of this National Institution, which was to have been held in September, is hereby postponed to the 2d, 3d, and 4th days of October next.

The Ohio State Board of Agriculture have also postponed the State Fair to the same time. In conformity, therefore, with the Resolutions, instructing the President of this Association to act in concert with that Board, this notice is given to countermand the Circular issued for the meeting in September.

The reasons assigned for this change are, that the apprehensions in relation to cholera and similar diseases may continue to exist until after the time heretofore appointed for the meeting of these Institutions. **MARSHALL P. WILDER, President.**
Boston, August 22, 1850.

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THE PENNSYLVANIA HORTICULTURAL SOCIETY will hold its **TWENTY-SECOND EXHIBITION** on *Wednesday, Thursday and Friday*, the 18th, 19th and 20th of September, in the *Philadelphia Museum*, corner of Ninth and George Streets, and will occupy the Two Grand Saloons of that building, which will afford ample space for the most extensive display of objects in horticulture, etc.

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THE NEW VERBENAS.—I see in the last number (July) of the *Horticulturist*, an article from "Looker-on." Speaking of the fine things he saw at the Boston Horticultural exhibition, he says: "the novelties that attracted most attention were Mr. BARNES' new French Verbenas, and Col. Wilder's seedling *Calceolarias*. The Verbenas were *Iphigene* and *Reine de Jour*, both remarkably fine and distinct," &c. "Looker-on" should look on more carefully; the two fine Verbenas above referred to, are not Mr. BARNES'; he had not in his possession the *Reine du Jour* at the time "Looker-on" wrote his article. These fine Verbenas, to which another, perhaps equally as fine, should be added, the *Saint Margaret*, were brought to this country last season,—the *Iphigene* and *Reine du Jour*, from Paris, and the *Saint Margaret* from England, by **JAS. JACKSON**, of Boston.

Mr. JACKSON has in bloom another French Ver-

benas, called *Onion Jack*—flowers and umbels medium size; color, strong carmine, becoming darker at the base of the petals, with a distinct light eye. Although it will not rank so high as either of the three already mentioned, it is nevertheless a very desirable one. *A Subscriber.*
Boston, July 16, 1850.

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VIRTUES OF SPENT TAN.—Permit me, as an addenda to my experiments with spent tan, as recorded in the July No., to mention another case of equally great value, and which must, I trust, put a quietus upon those merely theoretical talkers upon horticultural subjects, who have denounced it as poisonous, useless, &c., &c.

In May last, I transplanted a large number of recently imported dwarf pears, many of which were very dry, but by care, and good mulching with tan, I fancied I should save them all. One, however, in particular, a three year old, about the latter part of June, after a faint effort to burst its buds, gave up in despair. On cutting it down, a slight evidence of vitality appeared in the stock, at ten inches from the ground. This I enclosed by a box frame twelve inches square, and the same in depth, and filled it with fresh tan, i. e., *tan fresh from the vat*, leaving the stock protruding through the tan an inch. A fortnight since a party of horticultural friends made me a call, among whom was Col. B. Hodge, of the Buffalo nursery. The virtues of spent tan were mentioned, when I determined to test this experiment in their presence.

Upon examining the dead and blackened stock, as protruding through the tan-bark, it was decided, *nem. con.*, that in this case it must prove a failure. Not so, however, for upon carefully removing the frame and tan to the proper surface, eight blanched but thrifty shoots were discovered, varying from a half to an inch and a half in length!! Without permitting their exposure too long to a strong light, and drying wind, I replaced the empty frame, covered by a light of glass, and spread some grass over the surface to check the intensity of the sun's rays. By this progressive hardening they have now assumed a rich green color, and a growth of some six inches, bidding fair to make one of the handsomest trees in my grounds.

* I have seen this Verbenas written several times *de*; it is not correct; it should be *du*.

Since the appearance of the article, I have received numerous inquiries concerning it, and rejoice that the wide dissemination the "*Horticulturist*" has given it, may be as productive of pleasure and profit as it in truth deserves. *W. R. Coppock. Long Light Place, Aug. 5.*

THE AUGUSTA ROSE A PERPETUAL.—Having received many letters from numerous correspondents, inquiring if the Augusta was a perpetual or not, and having invariably said that I thought not, from all indications heretofore given, I now feel happy to be able to state, that it has this season, (the second year of its blooming,) shown its true Noisette character, having already bloomed twice, and small plants of this spring's growth from the bud, say four feet, were nipped not long since, which caused the eyes on each to break, now having some 15 limbs to each plant, and every shoot at this present time going into flower. I can therefore state to all those to whom I have written to the contrary, all of whom, I think, are readers of the *Horticulturist*, that it is a true Noisette in all respects, and is a perpetual, and therefore increased much in value, having that quality which adds a worth to every rose. *Respectfully, &c., A. Fahnestock. Syracuse, Aug. 13th, 1850.*

SINGULAR FACT.—*Dear Sir*—In November, 1849, some goats got into an orchard in this county, in which were some forty trees, of apricots, plums, cherries and apples, and gnawed the bark off of every tree. All were found to be dead last spring, except two apple trees, which I went to see on the 29th inst. There was no bark on their trunks from the ground nearly to the first branches, at least forty inches being entirely stripped all around. The wood, thus exposed to the atmosphere, when cut, was dry and well seasoned. Above this dry wood, the tree has grown this year nearly half an inch in diameter, and the whole tops of the trees are perfectly luxuriant. Not a twig has died, and every branch is loaded with fruit of the finest size, and most healthy appearance. Now, are such cases of frequent occurrence? What supports the life of the tree? How is nourishment conveyed to its branches? *Jos. G. Laeton. St. Clair, Schuylkill Co., Pa, July 31, 1850.*

THE STRAWBERRY CULTURE.—Why is it that much larger quantities of the strawberry are grown at Cincinnati, than at any other place in the United States? Is it owing to some peculiarity in the soil or climate, or both combined? Or is it to be attributed to the better mode of culture there? It is said that a full crop is gathered from year to year; and that *hundreds of bushels* may be seen in the market at once. And why may not other localities be just as favorable for growing this delicious fruit? Cleveland, too, is now becoming quite celebrated for its fine strawberries; and the market latterly

has been well supplied. And why should Buffalo, with her 40,000 inhabitants, be under the necessity of obtaining her strawberries from other places? I venture the assertion, that the time is not far distant when strawberries, grown in our own vicinity, will be as plenty as "blackberries."

Capt. B. Burdett and Brother have a fine plantation on Cayuga island, in the Niagara river, and, so far, have been very successful in growing the strawberry. I never saw larger, finer, or more beautiful fruit. It was really a treat to walk through their grounds. Such beautiful clusters of delicious fruit are rarely seen. The most of the crop was sold in this market at forty cents per quart. The varieties grown by them are the Large Early Scarlet, Hovey's Seedling, Boston Pine, and some few other sorts. The three varieties above named were all truly fine, very productive, and fruit of large size. They are now planting out one or two acres more. The soil is a fine loam, elevated not more than three or four feet above the water.

Our friend Taintor, at "Cherry Grove," is also in the "strawberry line," and doing "a pretty considerable business;" and, at our June show, "carried off the first premium." His soil is clay loam, and in a dry season suffers much more than the island soil. By the way, Mr. T. has a most beautiful "cherry grove"—the largest in this vicinity; and is able to compete with Cleveland in this department.

Professor Coppock, at "Longsight," with his subsoil plough and "heaps" of manure, gathered from the animal, vegetable and mineral kingdoms, is driving horticulture with a rush; and soon his "twenty-five acre patch" will be covered with acres of the strawberry, and tens of acres of other fruits; and neither flint stone, cobble stone, or hardpan will deter him from his hobby. Indeed, "Flint Hill" will soon "bud and blossom as the rose."

The "black knots," or warts, on the plum trees, are about the meanest thing ever sent here from the east, during the thirty years that I have been engaged in the nursery business here. I have never had but two trees affected by this disease till this season; and these two trees came from Boston. Last spring I received from the eastern part of this state a few hundred of the Frost Gage plum trees; they were, to appearance, healthy and fine. About twenty of these trees have this season become affected with these black knots. Also a few trees grown from *scions*, procured last spring from Massachusetts, have been attacked in the same way. In some of these warts I have discovered a small white worm; in others, nothing. Is this disease produced by an insect? If so, these trees must have been stung, or impregnated before they came here; for I take it for granted that the insect is not here. For if so, why are not some of the thousands of other plum trees not thus affected? May not these

facts enable us to become better acquainted with the nature or cause of this disease?

By the way, in speaking of fruits on the islands in the Niagara river, I will just hint that our old friend, "Ulmus," (L. F. Allen,) has a little orchard on the upper end of Grand Island, of about 60 acres, and with a fair prospect of increasing it to 100. For apples and pears, the location and soil are admirable; and at no distant day, he will make some little noise about it.

On the lower end of this island, some three miles from Niagara falls, at "Peach Haven," the writer of this has also a little plantation of some few thousands peach trees, together with a "right smart sprinkling" of other fruits. However, it is not necessary to apprise the public, that these orchards are designed for anything more than for family use. Yours very truly, *B. Hodge. Buffalo Nursery, Aug. 19, 1850.*

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THE PEACH AND NECTARINE.—Since the inspiration of your mysterious knockings have been vouched for by an eastern clergyman, I presume all doubts have vanished in regard to the raising of the Nectarine from the Peach. I regretted to learn from the letter of said reverend divine, the truth of your Gotham knockings, as he informs us they are performed by his satanic majesty. If Satan be the operator, he will make them operate to our injury. Why did you suppose I could longer doubt of the peach stone producing the nectarine, when in your paper, a year or more since, we had conclusive evidence that a tree bore peaches one year, and nectarines the next? Why should I doubt, when I had positive evidence of a greater change? I planted in a pot, in the greenhouse, three apricot stones, and from them had three forest trees. If I plant 10,000 peach stones yearly in the open ground, it is not strange if, in 50 years, there should be a chance nectarine stone dropped near them, and grow. But when the stones were planted in a flower pot, and never appeared, but three forest trees in their place, the evidence is conclusive. And I was assured they were trees not known in this region. This evidence is as satisfactory as the case named in your paper, where the person one year *saw a peach on the ground*, under his tree, which proved it to be a peach tree, and the next season the same tree was covered with nectarines. From your silence, I supposed you had faith in this change; and I therefore feel bound to believe that a nectarine tree may grow from a peach stone.

I had a grapevine, that bore white grapes for several years, when it produced a crop of black grapes. This was much stronger evidence than seeing a single grape under the vine. Yet, my vine-dresser was an unbeliever; and for no other reason than this: the white grapes were produced from a graft, inserted in a black grapevine; and he insisted that the black grapes must have been produced from a shoot from the old root. I should

be as unwilling to believe this, as to believe the doctrine of our friend DOWNING, untrue,—“that pistillate strawberry plants change their sexual character from running,” as he proved in the case of Hovey’s Seedling. Does he still hold to this doctrine? If so, I hope to see it stated in the next edition of his book on Fruits. Is your Black Prince strawberry pistillate or hermaphrodite? I have plants of both. I should, of course, believe the sexual character changed in runners, were it not that the fruit of the latter is a very long one. The colour is the same—the hermaphrodite the richer fruit. Is not such generally the character of hermaphrodites? Our fruit committee reported both of inferior flavor.

From seed that I furnished two of my tenants, they raised some thousands of plants. Nearly one-half were entirely staminate. Seven plants, among the whole, were deemed worthy of cultivation,—six pistillate, and one hermaphrodite. Three of them, in our soil, surpassed in size any exhibited, and were deemed of fine flavor. The hermaphrodite has borne a full crop of extra large, perfect fruit, and of good flavor, for three seasons. That it may always do so, is more than I dare say. Our fruit committee, deeming a fourth crop before they awarded premiums advisable, laid the subject over. Though they did in this instance, as in all others, examine the fruit in the gardens, and not, as is done east, judge from a sample exhibited at the horticultural room. In this way, hermaphrodites get a high character, by having premiums awarded to them, that will not average one-sixth of a crop of perfect fruit. A member of the late fruit convention informed one of our horticulturists that Hovey’s Seedling, in his garden, bore a full crop of perfect fruit, without a possibility of impregnation from any other plant. Yet, strange to tell, these same plants, on the grounds of his neighbors, proved entirely barren. Do not understand me as saying, that I want faith in this, though not vouched for by the eastern divine, as the work of Satan.

I have as much faith in it as I have in the peach changing to a nectarine, and a pistillate strawberry plant becoming staminate by running. I this spring grafted 55 kinds of new native grapes. Nearly all are growing, and several have fruit. A few of them are stated to be superior to the Catawba, as a table grape; and the assurances are from persons to be relied on. The stem and leaf sustain the assertion. Their quality for wine has not been tested. They are from different parts of the United States. I shall endeavor to get fruit of each that give a fair promise for wine, of the persons who sent the cuttings, in the fall. Strange as it may appear, some of the best have been in the families for 30 or 40 years, yet never attracted notice beyond the neighborhood. Several of them are the Winter, and the Fox grape, and of no value for the table, or for

wine Your believing friend, *N. Longworth. Cincinnati, July 20, 1850.*

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STEALING FRUIT.—As the season is now at hand when fruits are ripening, and when those who have been at the expense of procuring choice fruit generally suffer more or less from the depredations of those who had rather pilfer from their neighbors than raise their own, allow me to call your attention to the subject of protection, hoping it may prove as effectual to all who may choose to try the remedy, as it has been in my own experience. So far as I am capable of judging, I think you will find the remedy I am about to recommend, a perfect one, if persevered in. You will find it in the vol. of the *Cultivator* for 1847, page 256. It is as follows: "Procure from some druggist an ounce of Tartar Emetic; dissolve a small quantity in hot water; then select some choice specimens of fruit on the trees you wish to protect, and dip the fruit into the preparation, marking the fruit in some way that you will know yourself." The remedy is safe in its application, and is not liable to the objections of those where force or law is appealed to. These are apt to engender ill feeling in a neighborhood. On the contrary, this effects its object in a quiet and peaceable way. The person who loses his fruit, is amused by the result. The one who takes it is generally pretty well satisfied to let it alone for the future, and to say nothing about the past.

The habit of stealing fruit is an evil against which the cultivator has a right to be protected. He is as much entitled to the product of his trees, as he is to the result of his labors applied in any other way. Of the many suggestions I have seen recommended for securing this object, I know of none so satisfactory as this; and I cannot but think you will confer a particular favor on many of the readers of your magazine by its publication.

C.

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BURR'S STRAWBERRIES.—My attention has just been called to an article in your July number, which censures me for an error, in furnishing Mr. ERNST, of Cincinnati, with Burr's New Pine Strawberry plants. It says Mr. ERNST "procured the plants from Mr. BURR himself," which was not the fact; and in the sequel, you will see why "the task was delegated to another person." Some time in March, 1849, I received an order from Mr. ERNST for plants, some two months previous to which I had sold my place, and then had no interest in it whatever; but being desirous of serving Mr. ERNST, I handed the order over to Mr. A. SITES, the present proprietor, (in whom I had the fullest confidence that it would be done correctly,) for him to fill and forward, which he did. Mr. ERNST wrote me in May last, that some of the plants, sent by Mr. Sites, were hermaphrodite, and others decidedly pistillate, and asked if it was a sportive habit of the plant, or a mistake

in putting up, to which the letter noticed as from me was in reply. *J. Burr. Columbus, Aug. 17, 1850.*

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BRITISH QUEEN STRAWBERRY.—I have the British Queen Strawberry for sale, at \$1.25 per hundred, or \$10 per thousand, which I have been cultivating for several years past, and have found them to be perfectly hardy and great bearers. I have also several other valuable kinds for sale, at reasonable terms, which have succeeded well with me, without covering in winter; though I recommend covering all the different varieties of strawberries when cultivated on a soil exposed to heave much by frost. E. B. PRENTIS. Orders to be directed to S. BUCKINGHAM, Albany. *Shakers, Watervliet, Albany county, N. Y., Aug. 21, 1850.*

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OSWEGO HORTICULTURAL EXHIBITION.—The Horticultural Society of the city of Oswego held their second annual exhibition of fruits, flowers and vegetables for the season on the 10th inst., at the City Hall.

To give a particular description of the display and all articles presented, would exceed our limits at this time. Suffice it to say, it was all that could have been anticipated, and sufficient to convince the public that the city of Oswego can compete with any city in Western New-York for taste in selecting choice varieties of fruit, flowers and vegetables, also for a favorable climate in which to cultivate them, and bring them to perfection.

The room selected for the exhibition was one of the largest in the city, and was fitted in a manner we have rarely seen excelled. A table of over one hundred feet long was placed through the centre of the room, upon which more than one hundred roses of the choicest flowers of the season, were arranged, formed into bouquets with all the delicacy of taste, in shading and arranging, which the limited efforts of the ladies of this city could effect, and in this particular we doubt whether any similar exhibition in Western New-York has surpassed it.

Other tables were arranged for the reception of green-house plants and vegetables, in a manner which rendered their examination convenient, without detracting from the first impression produced on entering the room by the full blaze of the floral kingdom.

A superficial glance at the fruit table at once convinced us that this city is not to be outdone in the production of all the choice varieties grown in this latitude. Although the season for strawberries might be considered passed, we noticed about twenty approved varieties upon the table, some of very large size and fine flavor, and rightly labelled as to varieties. Of cherries we noticed over thirty varieties, among which were the Graffion, Eiton, Napoleon Bigarreau, Flesh Coloured Bigarreau, Black Tartarian, Knight's Early Black, Black Eagle, Large Late Black

Bigarreau, May Duke, and several varieties of Morellas,—forming complete suits for the season.

Gooseberries.—Of this fruit this city may boast of producing it in greater perfection than any other part of the state. Many of the leading varieties were upon the table of extraordinary size and beauty, and cultivators have not to complain of the loss of their crops by the mildew which destroys this fruit in other parts of the state. This is attributable to the influence of the lake upon much of this country.

Of the flowers which constituted the principal attraction of the exhibition, it is not in our power to do justice, and therefore would refer our readers to a more particular account of them, which will be in another column, by the proper officers of the society; but a few of the roses so attracted our attention, we cannot pass them over.

Among them, we noticed some of the finest double crested roses we have ever seen,—double and single moss roses were in abundance, some of the bouquets being composed entirely of the half expanded flowers, and buds of this queen of flowers. Of Carnations and Picotees there were some fine varieties—Verbenas, a splendid collection. The productions of the woods and fields were also beautifully arranged, showing that the Botanists had been busy, and from the correctness of labeling of wild plants, it was plain that scientific men were engaged in horticultural pursuits.

A fine band of music was in attendance for the amusement of a very select audience, and the evening was passed in a manner calculated to leave a favorable impression upon all who were present, and a desire for a repetition of like exhibitions, as exerting a beneficial influence upon every part of community. *Oswego Times.*

PENNSYLVANIA HORTICULTURAL SOCIETY.

The stated meeting of this society occurred on Tuesday evening, Aug. 20th. E. W. Keyser, vice-president, in the Chair.

The most attractive portion of the exhibition was the fruit tables, which contained a rich display of grapes and plums, very fine peaches, pears, apples, nectarines and water melons. In plums, it has not been surpassed in extent, variety, or perfectness of specimens, at any monthly display,—taxing to the utmost the powers of discrimination in the committee to determine the awards. The cut flowers, in the beautiful designs and bouquets, never appeared to better advantage, nor the vegetables in finer condition; affording much gratification to the members upon the eve of the grand autumnal display. From the present evidences and known profuseness of the season, a most successful effort may be anticipated a month hence.

The premiums were awarded as follows, viz:

By the committee on plants and flowers. Hot-house plants—for the best grown and finest flowered, three named varieties, to Ben Daniels, gardener to Caleb Cope; for the second best, to Maurice Finn, gardener to John Lambert. Plants in pots—for the best and most interesting collection named, to Maurice Finn. Design of cut flowers—for the best, to Andrew Dryburgh; for the second best, to Ben Daniels. For the best bouquet suitable for the hand, to Maurice Finn. Basket of cut flowers—for the best, to Robert Kilvington; for the second best, to Andrew Dryburgh. For the best formed of indigenous flowers, to Robert Kilvington. And a special premium of one dollar to Maurice Finn, for a handsome basket of cut flowers; and another of one dollar to Ben Daniels, for a beautiful collection of 31 varieties of cut Fuchsias.

By the committee on fruits. Grapes—for the best three bunches of a black variety (the Black Hamburg), to William Hamill, gardener to D. B. Taylor; for the second best (the Black Hamburg), to Thomas O'Brien, gardener to the Institution of the Ladies of the Sacred Heart, at Eden Hall. For the best of a white variety (the White Frontignan), and for the second best (the Chasselas), to Tho's O'Brien. Nectarines—for the best (the Cushing's White), to Charles Sapp, gardener to J. Askev, Burlington, N. J. Plums—for the best twelve (the Washington), to John Wetherill, jr., Spring Garden; for the second best (the Washington), to Robert Johnson, Southwark; for the third best (the Green Gage), to Mrs. John B. Smith. Peaches—for the best (the Early York), to Her. W. S. Cleveland; for the second best (Froth's Early Red), and for the third best (the Coolidge's Favorite), to John Perkins, Moorestown, N. J. Pears—for the best (the Washington), to Isaac B. Baxter; for the second best (the Bartlett), to John Perkins; for the third best (the Moysamensing), to Mrs. John

B. Smith. Apples—for the best (the Summer Pearmain,) for the second best (the Maiden's Blush,) and for the third best (the Hagloe), to John Perkins. And special premiums—one of one dollar to Ben Daniels, for a splendid dish of Austrian Muscat Grapes; and of two dollars to Chalkley Glover, N. J.; for three fine water melons, of the Mountain Sweet variety.

By the committee on vegetables. Pot the best display by a market gardener, to Anthony Felten; for the second best, to Anthony Felten, jr. For the best display by an amateur gardener, to Maurice Finn, gardener to John Lambert; for the second best, to Ben Daniels, gardener to Caleb Cope.

The committee of finance reported that they had examined the semi-annual statement of the Treasurer, and found the same correct.

The special committee, appointed to investigate the subject of the ravages committed by the *Cicada septendecim*, the Seventeen Year Locust, on the roots of trees, submitted an interesting report, stating that they had found the insect, under the guidance of Miss Morris, of Germantown, about the roots of several fruit trees, in an advanced stage, which that lady asserts, and confidently believes, has lived in its larval state for the past sixteen years,—deriving its nourishment from the sap of the trees, to which it is attached in great numbers by its proboscis, to the manifest injury of the tree. The committee submitted also papers from Miss Morris, describing fully the insect, its habits, and the ill effects to trees; and from Professors Goadby and Hare, confirming her views.

Miss Morris also called the attention of the committee to an insect, the *Baridius trinotatus* Say, which feeds on the inside of the potato stem, causing its destruction. The remedy which she suggests is an effectual one—that of moving down the vines. On motion,

Ordered, That the thanks of the Society be tendered to Miss M. H. Morris, for thus communicating her discoveries, and for her kind attentions to the committee.

Communications were read from the Duke of Devonshire, and Mrs. Catharine Stanley, in acknowledgment of their election to honorary membership in our association.

Invitations were announced from the officers of the American Pomological Congress, to send delegates to the next session of the National Institution, about to assemble at Cincinnati, Ohio, on the 2d, 3d and 4th of October, and from the Chester Co. Horticultural Society, to attend the autumnal exhibition; when, on motion,

Ordered, That the President appoint delegates thereto; also to exhibitions of other societies.

THO. P. JAMES,
Recording Secretary.



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MR. DOWNING'S LETTERS FROM ENGLAND.

MY DEAR SIR—I intended to say something to you in this letter of the enormous parks of London—absolute woods and prairies, in the midst of a vast and populous city; but the subject is one that demands more space than I have at my disposal to-day, and I shall therefore reserve it for the future. I will merely say, *en passant*, that every American who visits London, whether for the first or the fiftieth time, feels mortified that no city in the United States has a public *park*—here so justly considered both the highest luxury and necessity in a great city. What are called parks in New-York, are not even apologies for the thing; they are only squares, or paddocks. In the parks of London, you may imagine yourself in the depths of the country, with, apparently, its boundless space on all sides; its green turf, fresh air, and, at certain times of the day, almost its solitude and repose. And at other times, they are the healthful breathing zone of hundreds of thousands of citizens!

THE NATIONAL GARDEN AT KEW.—I have just come from a visit at Sir WILLIAM HOOKER'S, at Kew Park. He is the director of the Royal Gardens at Kew,—a short distance from his house,—where we spent

almost the entire day together, exploring in detail the many interesting features of this place, now admitted to be the finest public botanic garden in Europe.

It is only within a few years that Kew gardens have been given up to the public; and it is wholly owing to the spirited administration of Sir WM. HOOKER—so well known in both hemispheres for his botanical science—that it has lately reached so high a rank among botanical collections. Originally, the place is interesting, as having been the favorite suburban residence of various branches of the royal family. GEORGE III. lived here; and here Queen CHARLOTTE died. The botanical taste of the latter is well known, and has been commemorated in that striking and beautiful plant, the *Strelitzia*, named in her honor* by Sir JOSEPH BANKS. For a long time the garden was the receptacle of all the rare plants collected by English travelers—Capt. COOK, Sir JOSEPH BANKS, CUNNINGHAM, and others. What was formerly of little value has, however, lately become a matter of national pride; and this is owing to the fact, that the present queen has wholly given Kew up to the public, even adding a

* She was Princess of the House of Mecklenberg Strelitz.

considerable sum annually from her private purse towards maintaining it. The old "Kew Palace," which stands in the grounds, is a small, simple, brick mansion, without the least pretension to state, and shows very conclusively that those of the Hanover family who lived here did it from real attachment to the place—like Queen CHARLOTTE, from love of botany; as there is nothing about it to please the tastes of an ambitious mind.

As Kew has been already described by one of the correspondents of this journal, I shall not go into those details which might otherwise be looked for. I shall rather prefer to give you a comprehensive idea of the attractions of the place, which, though about eight miles from London, was visited last year by one hundred and thirty-seven thousand persons. The only requisite for admission is to be decently dressed.

When you hear of a *garden*, in America, you fancy some little place, filled with borders and beds of shrubs and flowers, and laid out with walks in various styles. Dispossess your mind at once, however, of any such notions as applied to Kew. Fancy, on the other hand, a surface of about two hundred acres; about sixty of which is the botanic garden proper, and the rest open park or pleasure grounds. The ground-work of the whole is turf; that is, smoothly mown lawn in the sixty acres of botanic garden, and park-like lawn, occasionally mown, in the remainder. Over this, is picturesquely disposed a large growth of fine trees—in the botanic garden, of all manner of rare species, every exotic that will thrive in England—growing to their natural size without being in the least crowded—tall pines, grand old Cedars of Lebanon, and all sorts of rare deciduous trees. Between the avenues and groups are large open glades of smooth lawn, in which are distributed hot-houses, ornamental cottages, a large lake of water, parterres of bril-

lant flowers for show, and a botanical arrangement of plants, shrubs, and trees for scientific study.

In the centre of a wide glade of turf rises up the new palm-house, built in 1848. It is a palace of glass—362 feet in length, and 66 feet high—and fairy-like and elegant in its proportions, though of great strength; for the whole, frame-work and sashes, is of cast iron, glazed with 45,000 feet of glass. You open the door, and, but for the glass roof that you see instead of sky above your head, you might believe yourself in the West Indies. Lofty palm trees, thirty or forty feet high, are growing, rooted in the deep soil beneath your feet, with the same vigor and luxuriance as in the West Indies. Huge clusters of golden bananas hang across the walks, and cocoa nut trees, forty-two feet high, wave their tufts of leaves over your head. The foliage of the cinnamon and camphor scents the atmosphere, and rich air-plants of South America dazzle the eye with their strange and fanciful blossoms. Most beautiful of all are the *tree ferns*, with trunks eight or ten inches in diameter, and lofty heads, crowned with plume-like tufts of the most delicate and graceful of all foliage. From the light iron gallery, which runs round the inside of this tropical forest-conservatory, you look down on the richest assemblage of vegetable forms that can be conceived; while over your head clamber, under the iron rafters, in charming luxuriance, the richest passion flowers and other vines of the East Indian islands.

If you are interested in exotic botany, you may leave this palm house, and pass the entire day in only a casual inspection of the treasures of other climates, collected here from all parts of the world. Green-houses, the stoves, the orchidaceous house, the Australian house, the New-Zealand house, and a dozen other glass structures, contain all the riches of the vegetable kingdom which will

not bear the open air,—and each in the highest state of cultivation. Giant cactuses from Mexico, fourteen feet high, and estimated to be four hundred years old, and rock gardens under glass, filled with all the ferns and epiphytes of South America, detain and almost satiate the eye with their wonderful variety, and grotesqueness of forms and colours.

In the open grounds are many noble specimens of hardy trees, of great beauty, which I must pass by without even naming them. I saw here the oldest Deodar Cedar and *Araucaria imbricata* in England, each about twenty-five feet high, and justifying all the praises that have been lavished upon them; the former as the most graceful, and the latter the boldest and most picturesque of all evergreens. The trunk of the largest *Araucaria*, or Chili pine, here, is of the thickness of a man's leg; and the tree looks, at a distance, like a gigantic specimen of deep green *coral* from the depths of the ocean. I was glad to know, from experience, that these two noble evergreens are quite hardy in the northern states. You may judge of the scale on which things are planned in Kew, when I mention that there is a wide avenue of Deodars, newly planted, (extending along one of the vistas from the palm house,) 2,800 feet long. A steam engine occupying the lower part, and a great reservoir the upper part of a lofty tower, supplies, by the aid of concealed pipes, the whole of the botanic garden with water.

I should not omit the museum—a department lately commenced, and upon which Sir WILLIAM HOOKER is expending much time. It is in some respects, perhaps, the most useful and valuable feature in the establishment. Here are collected, in a dried state, all the curious and valuable vegetable products—especially those useful in the arts, medicine, and domestic economy—all the raw vegetable materials—the fibre—the manufactured products, etc. Here, one may see the

gutta percha, of the East Indies, in all its states—the maple sugar of America—the lace-bark of Jamaica—the teas of China, and a thousand other like useful vegetable products, arranged so as to show the stages of growth and manufacture. Collections of all the fine woods, and specimens of interesting seeds, are also kept in glass cases duly labelled.

Now that I have perhaps feebly given you a *coup d'œil* of the whole, (omitting numberless leading features for want of time and space,) you must, in order to give the scene its highest interest, imagine the grounds, say at 2 o'clock, filled with a thousand or twelve hundred men, women and children, of all ages—well dressed, orderly and neat, and examining all with interest and delight. You see that they have access, not only to the open grounds, but all the hot-houses, full of rare plants and flower gardens, gay with the most tempting materials for a nosegay. Yet, not a plant is injured—not the least harm is done to the rarest blossom. Sir WILLIAM assured me that when he first proposed to try the experiment of throwing the whole collection open to the public, many persons believed it would prove a fatal one; that, in short, Anglo-Saxons could not be trusted to run at large in public gardens, full of rarities. It has, however, turned out quite the contrary, as he wisely believed; and I learned with pleasure (for the fact has a bearing at home,) that on days when there had been three thousand persons in the garden at a time, the destruction committed did not amount to the value of four pence! On the other hand, the benefits are not only felt indirectly, in educating, refining, and elevating the people, but directly in the application of knowledge to the arts of life. I saw, for example, artists busy in the garden, who had come miles to get an accurate drawing of some plant necessary to their studies; and

artisans and manufacturers in the museum, who had been attracted there solely to investigate some matter connected with their business, in the productions of the loom or the workshop.

In short, I left Kew with the feeling, that a national garden in America might not only be a beautiful, but a most useful and popular establishment; one not too dearly bought, even at the expense bestowed annually upon Kew.

THE NEW HOUSES OF PARLIAMENT.—I spent a whole morning with Mr. BARRY, the distinguished architect of the new houses of Parliament, in examining every part in detail. It is a common feeling that the age for such gigantic works in architecture as the Gothic cathedrals, has gone bye. Perhaps this may be the case, with religious edifices; though I doubt even that, with such a great church and state empire as Russia growing up, and already casting a gigantic, though yet vague shadow over Europe. But here is certainly a flat denial of the opinion, in this new legislative hall of Great Britain—quite the masterpiece of modern Gothic architecture, (excepting perhaps the cathedral of Strasbourg.) Concisely, this vast pile, not yet finished, covers, with its courts, about eight acres of ground. Ten years have been consumed in its erection; and as many more will probably be required for its completion. You must remember, too, that not only have as many as 3000 men been employed on it at a time, but all the appliances of steam-lifting and other machinery are used besides, which were not known in the days of cathedrals.

The style chosen by Mr. BARRY is the perpendicular, or latest decorated Gothic—the exterior, rather very nearly akin to that of the beautiful town halls of the Low Countries, than that of any English examples. The stone is a hard limestone from Yorkshire, of a drab colour; and the decorative sculpture is

elaborate and beautiful in the highest degree. What particularly charmed me, was the elegance, resulting from the union of fine proportions and select forms of modern cultivated tastes, with the peculiarly grand and venerable character of Gothic architecture. One is so accustomed to see only strength and picturesqueness in middle-age examples, that one almost limits the pointed style to this compass. But Mr. BARRY has conclusively shown that that *elegance*—which is always and only the result of fine proportions—is a beauty of which Gothic architecture is fully capable. Of the splendor of the House of Lords, and the richness and chasteness of many other portions of the building, you have already had many accounts. I will therefore only say, at present, that so carefully has the artistic effect of every portion of this vast building been studied, that not a hinge, the key of a door, or even the candlesticks on the tables, has been *bought* at the dealers; but every detail that meets the eye has been especially designed for the building. The result, as you may suppose, is a unity and harmony throughout, which must be seen to be thoroughly appreciated.

The profession has often found fault with the employment of a florid Gothic architecture for this building. Certainly, it looks like throwing away such delicate details,—to pile them up amid the smoke of London, which is, indeed, already beginning to blacken and deface them. But, on the other hand, the beauty and fitness of the style for the interior seem to me unquestionable. The very complexity appears in keeping with the intricate machinery of a government, that rules an empire almost extending over half the globe.

PICTURE OF A NOBLEMAN'S SEAT.—I shall finish this letter with a sketch of a nobleman's seat, where I am just now making a visit; and can therefore give you the outlines

in a better light than travellers generally can do. The seat is called Wimpole—the property of the EARL OF H——, and is situated in the fine agricultural district of Cambridge-shire. It is not a “show place;” and though a residence of the first class, especially in extent, it is only a fair specimen of what you may find, with certain variations, in many counties in England.

The landed estate, then, amounts to more than thirty-seven thousand acres—a large part admirably cultivated. The mansion, which stands in the midst of one of those immense and beautiful parks which one only finds in England, is a spacious pile in the Roman style, four hundred and fifty feet front; rather plain and antique without, but internally beautiful, and in the highest degree complete—both as regards arrangement and decoration. The library, for example, is sixty feet long, quite filled with a rich collection of books. The suite of drawing-rooms abounds with pictures by VAN DYCK, RUBENS, and other great masters; and there is a private chapel, in which prayers are read every morning, capable of containing a couple of hundred persons.

In front of the house, a broad level surface of park stretched before the eye, and is finely taken advantage of as a position for one of the noblest avenues of grand old elms that I have seen in England; an avenue three miles long, and very wide—not cut in two by a road,* but carpeted with grass, like a broad aisle of verdure. Place at the end of this a distant hill, and let the avenue be the central feature to a wide park, that rises into hills and flows into graceful swells behind the house, and fill it with herds of deer and groups of fine cattle, and you have a general idea of the sylvan features of Wimpole.

But it is not yet complete. Behind the house, and separated from the park by a ter-

race walk, is a parterre flower garden, lying directly under the windows of the drawing-rooms. Like all English flower gardens, it is set in velvet lawn—each bed composed of a single species—the most brilliant and the most perpetual bloomers that can be found. Something in the soil or culture here seems admirably adapted to perfect them, too; for nowhere have I seen the beds so closely covered with foliage, and so thickly sprinkled with bloom. Some of them are made of two new varieties of scarlet geraniums, with *variegated* leaves, that have precisely the effect of a mottled pattern in worsted embroidery.

Beyond this lies the pleasure grounds,—picturesque, winding walks, leading a long way, admirably planted with groups and masses of the finest evergreens and deciduous trees. Here is a weeping ash, the branches of which fall over an arbor in the form of half a globe, fifty feet in diameter; and a Portugal laurel, the trunk of which measures three feet in circumference. A fine American black walnut tree was pointed out to me as something rare in England. And the underwood is made up of rich belts and masses of Rhododendrons and English laurels.

I must beg you to tell my lady friends at home, that many of them would be quite ashamed were they in England, at their ignorance of gardening, and their want of interest in country life. Here, for instance, I have been walking for several hours to-day through these beautiful grounds with the COUNTESS OF H., who, though a most accomplished person in all other matters, has a knowledge of everything relating to rural life, that would be incomprehensible to most American ladies. Every improvement or embellishment is planned under her special direction. Every plant and its culture are familiar to her; and there is no shrinking at barn-yards—no affected fear of cows—no ignorance of the dairy and poultry-yard. On the contrary, one is de-

* The approach is at the side.

lighted with the genuine enthusiasm and knowledge that the highest class (and indeed all classes) show in the country life here, and the great amount of health and happiness it gives rise to. The life of an English woman of rank, in the country, is not the drawing-room languor which many of my charming country women fancy it. Far from it. On the contrary, it is full of the most active duties and enjoyments. But it must be admitted that the cool and equal temperature of the summers here, is greatly more inviting to exercise than our more sultry atmosphere at home.

We measured, in the course of the morning's ramble, several English elms, with which the park here abounds, from 15 to 18 feet in circumference.* I was not so much surprised at this, as at the grandeur of the horse chestnuts, which are truly majestic—many measuring not less in girth, with a much greater spread of branches; each lower branch of the dimensions of an ordinary trunk, and, after stretching far out from the parent stem, drooping down and resting upon the turf, like a giant's elbow, and then turning up again in the most picturesque manner. The trees in England have a more uniform deep green tint than with us, which I think rather lessens the richness and variety of the landscape.

The Queen made a visit here in 1844; and as everything which royalty does in a monarchy is commemorated—and especially when, as in the present case, the character of the sovereign is a really good one—I was shown a handsome new gate at the side of the park, opposite to that which I entered, with a striking lodge in the Italian taste, bearing the royal arms, and called the "Victoria gate." What interested me much more, was an almshouse, built and managed wholly by LADY

H., as a refuge for deserving persons, grown old or infirm in the service of the family, and unable, through ill health or incapacity, to take care of themselves. The building—cottage-like—is not only quite an ornamental structure in the old English manner, but the interior is planned so as to secure the greatest comfort and convenience of the inmates. Nothing could be more delightful than the kind interest felt and acknowledged between the benevolent originator of this charity and those who were its recipients. The eyes of an infirm old woman, to whom my having come from America was mentioned, and who had sons in the new world, brightened up with a strange joy at seeing some one from a land where her heart had evidently been of late more busy than at home. "It was a good country," she said; "her sons had *bought land*, and were doing famous." For a working man to own land, in a country like this, where the farmers are almost all only tenants of the few great proprietors, is to their minds something like holding a fee simple to part of paradise.

The morning yesterday was spent on horseback in examining the agriculture of the estate. The rich harvest fields, extending over the broad Cambridgeshire plains, afford, at this season, a fine picture of the great productiveness of England. About a thousand acres are farmed by LORD H., and the rest let to tenants. I was glad to hear from him that he has endeavored, with great success, to abolish the enormous consumption of malt liquor among laborers of all classes here, by giving them only a very small allowance, joined to a sum equal to the largest allowance on other estates, in the shape of an addition to their wages. He confirmed my previous impressions of the bad effects produced by this monstrous guzzling of beer by the working men of England; a consumption actually astounding to one accustomed to the absti-

* But, after all, not so noble or beautiful as, in their heads, the American elms in the Connecticut valley.

ment and equally hard working farmers of the United States.*

Farming, here, is a vastly more scientific and carefully studied occupation than with us; and the attention bestowed upon landed estates, (many of which yield a revenue of \$50,000 or \$60,000 a year, and some much more,) is, as you may suppose, one of no trifling moment. Hence the knowledge of practical agriculture, by the owners of many of these vast English estates, is of a very high order; and I am glad, from considerable observation, to say that the relations between owner and tenant are often of the most considerate and liberal kind. No doubt the present free trade prices of corn make a hard market for many of the tenant farmers of England. Yet, as the interests of the landlord and tenant run in parallel lines, it is clear that rents must be modified accordingly. Upon this estate, this has been done most wisely and judiciously. The good understanding that exists between both parties is therefore very great; as a proof of which, I will mention that the Earl gives a dinner twice a year, to which all his tenants are invited. At the last festival of this sort, he took occasion to speak publicly of the low prices of bread stuffs, and the complaint so frequently made of the high rents at which farms were still held. To meet the state of the times, he added, that he had, from time to time, altered the scale of his rents; and had now resolved to make a still further reduction of a certain number of shillings per acre to all who would apply for the same after that day. He now mentioned to me, that although nearly two months had elapsed, not a single application had been made; and

this, perhaps, solely because the tenants appreciated the justice and liberality with which the estate had been managed, and knew the free trade policy, where this is the case, falls as heavily on the landlords as on themselves.

Nothing can well be more complete, of its kind, than this highest kind of country life in England. I leave out of the question now, of course, all republican reflections touching the social or political bearing upon other classes. Taken by itself, it has been perfected here by the long enjoyment of hereditary right, united to high cultivation and great natural taste for rural and home pleasures, till it is difficult to imagine anything (except, perhaps, a little more sunshine out of doors,) that would add to the picture. In the first place, an Englishman's park, on one of these great estates, is a species of kingdom by itself—a vast territorial domain, created solely for his own enjoyment, and within the bounds of which his family and guests may ride, drive, walk, or indulge their tastes, without in the least interfering with any one, or being interfered with, by the presence of any of the rest of the world. In the next place, the climate not only favors the production of the finest lawns and pleasure grounds in the world, but promotes the out-of-door interest in, and enjoyment of them. Next, these great domestic establishments, (so immense and complete that we have nothing in America with which to compare them,) are still managed, (owing to the exercise of the service, and the division of labor,) with an ease and simplicity quite incomprehensible to an American, who knows from experience how difficult it is to keep a household of half a dozen domestics together, even in the older parts of the Union. Here, there are sixty servants, and I have been in houses in England where there are above a hundred, and yet all moving with the quiet precision of a chronometer. There are few

* At the celebrated farm of Mr. W., in this county, his cellar contained, at the commencement of harvest, 24 *hogs-heads of beer*; barely enough, as I was told, for the harvest labor—about nine pints per day to each man. There was nearly a strike among the workmen for ten pints; indeed, a gallon per day is no very uncommon thing for a beer drinker in England!

people in England, I think, who seem inclined to say amen, to the doctrine that

“Man wants but little here below.”

I would however be quite willing to subscribe to it, so far as regards one's domestic establishment in America, if, alas! we could have “that little”—*good!*

I must close my letter here, with a promise to give you some account of Chatsworth in my next, which stands, in some respects, at the head of all English places. Yours, most truly,

A. J. D.

Cambridgeshire, August, 1850.

EXPERIMENTS WITH EVERGREEN AND OTHER TREES.

BY GEORGE JAKES, WORCESTER, MASS.

DEAR SIR—If the following account of a few experiments is worthy a place in the columns of the *Horticulturist*, I shall be happy to see it there, provided you will add such remarks of your own as the nature of the experiments may suggest.

EXPERIMENTS WITH EVERGREENS.—*Transplanting*.—Theoretically, we understand that trees of the temperate zones have generally (there may be some exceptions,) two seasons of repose during the year. The first period of rest is the short *siesta*, in which they indulge during two or three weeks immediately succeeding the middle of June, i. e., about the longest days of summer. The first flow of sap is over; the new shoots have protruded themselves and expanded their leaves; the fruit is set, and nature for a little while takes her needed repose. Soon, however, a new impulse is received; the shoots commence growing again, and putting forth leaves upon their extended wood, and the fruit swells in size, and gradually arrives at maturity. As the cold weather of autumn approaches, the fruit and leaves fall to the ground, the trees again become dormant, and their sap remains almost motionless until the approach of spring.

The chief operations with trees, are to be performed during this latter long season of their repose. The question of transplanting

evergreens, therefore, is not whether it shall be done in the fall, or in the spring, or at mid-summer; but whether it should be performed during the summer sleep, or during the winter sleep of the trees, and at what part of those intervals of rest?

Were it not for the effects of frost during our long and severe winters, it would unquestionably be best to transplant trees of every description just at the commencement of their winter's repose. But, as our seasons are constituted, after many experiments and considerable observation of the experience of others, we prefer to plant our trees,—evergreen or deciduous, small or large,—except only those of very large size, in the spring, or rather just as the trees are beginning to wake from their long sleep. Having neglected this opportunity, we should next select the early or middle part of their summer rest, for transplanting evergreens; but we never mean to transplant this class of trees in autumn again, if we can avoid it.

We might adduce scores of facts upon which to back these conclusions; but we shall confine ourselves to the hemlock only. It is well known that these beautiful natives of our forests are as impatient of cultivation as an Indian is of civilization. Many who have tried to win them from their wild haunts, have given the thing up in despair. We have

never been able to make, and have never known the hemlock to live when transplanted in autumn. Last year, we moved about forty, four to six feet high, on a *rainy day* (the most favorable weather, of course,) in June. Only five of them are now alive. This last spring, we transplanted fifty-two, on a *rainy day* about the last of April. They are all alive, and are now making their growth upon the second flow of sap, so that they are about certain not to disappoint our expectations.

To those who may wish to supply their grounds with this, the most beautiful of all North American evergreens, we submit the above as our experience.

Wherever small trees of the hemlock grow in a field or in an open wood, or by the side of a wood, where they are used to the light of the sun, and where the ground under them is sandy and free from stones, so that they can be taken up with the earth adhering to their roots, if transplanted on a damp, cloudy, or rainy day, there is no difficulty about moving the trees of six feet or less in height. When once removed to the nursery, they may be easily re-set at any time.

SHORTENING-IN.—We have found evergreen and deciduous trees to be alike benefited by shortening-in after transplanting. One mode of operating we prefer with evergreens, is to cut them in a conical form, omitting to cut off the leading shoot, respecting which we have a word also to add.

RESTORING THE LEADER.—"It hath been said of old," that the leading shoot of an evergreen, once destroyed, cannot again be restored. We do not find it so. Our experiments with the Hemlock, American Fir, Norway Spruce Fir, and Arbor Vitæ, have shown very satisfactorily the reverse of this old assertion. Wherever the leader is destroyed, we select the nearest thrifty side shoot, or two of them, if we wish the tree to have a double head; we tie these to a stake,

or otherwise fasten them in a vertical position, and they soon become as good leading shoots as the original was. The experiment rarely fails with trees less than ten or twelve feet in height; and for aught that we know, it would succeed with much larger trees. The leader of any deciduous tree may be restored in the same way, as is well known.

SHORTENING-INTO IMPROVE THE GROWTH.—We have had most gratifying success with this operation, when applied to the American Fir, Norway Fir, Arbor Vitæ, Hemlock, Scotch and American Larches. The foliage or spray of these trees, may in this way be thickened to almost any extent. The American Larch thus treated, becomes a most beautiful tree; and the Norway Fir and Arbor Vitæ of a hedge row may, by this means, be converted into a perfect green wall, through which even the light cannot penetrate. The preferable season to shorten-in is perhaps just before the trees begin to grow in the spring, although it succeeds well at the time of their summer rest, in June.

DISBARKING DECIDUOUS TREES.—We have often heard that an apple tree might have its entire trunk disbarked in the month of June—that is, during its summer rest—without injury. We have had testimony from those who have seen it done. Last year we had a Napoleon pear, having a blackish, shrivelled, unhealthy bark upon its trunk. We disbarked the entire trunk three-fourths of the circumference. The tree was small, or about two inches through at the ground. It has now a fine healthy *rough* bark, (a great improvement over the smooth bark, because now the crisis from smooth to rough bark is passed safely over,) and the tree is in excellent condition. We tried a similar experiment this year, with the like success. Another season, we mean to apply this mode of cure with a bolder hand; and, provided we live, some of our leprous-barked subjects of the

pear family will be sure to "catch it." We believe what is called *canker*, upon the bark of large trees, may be cured in this way. The experiment is certainly worth trial.

Taking off the outer bark of the trunk of the cherry, when it is two or more years old, is now a part of our regular practice. We change the bark at once from the smooth condition of its youth to that permanent roughness belonging to the remainder of its life; and the tree is far more likely to flourish, and to escape the peculiar diseases to which its trunk is liable, than it is without this assistance.

This treatment, we are inclined to think, will operate favorably in preventing the *plum wart*, or *black knot*, as it is called; for we think the old remedy of cutting off the warts, had its efficiency in *opening the bark*, rather than in any other way removing the source of the disease.

TRANSPLANTING TREES IN A GROWING

STATE.—We found it necessary, about the middle of June last, to remove three or four apple and pear trees, of six or eight feet in height, and one apple tree of some four inches in diameter, in a bearing state. The trees did not droop scarcely at all; and they continued in a fine healthy condition,—some of them even making a fine growth, with the second flow of sap. The mode of operating was that recommended by the late Col. Perkins, (see vol. 1st of Horticulturist, page 170th;) that is, saturating the ground with water, &c.; then taking up the tree with the muddy earth attached in a mass, and supplying water bountifully after it is set. * * *

I have copied the foregoing hastily from my memorandum book; and I offer it for publication, in the hope that you will intersperse it liberally with editorial remarks, and thereby render it of more value to your readers. Yours, &c.,

GEO. JAKUES.

Worcester, Mass., September, 1850.

LAYING OUT AND PLANTING LAWNS.

BY WM. WEBSTER, ROCHESTER, N. Y.

As the season for laying out and planting ornamental grounds is near at hand, I propose offering a few useful hints to those who may wish to become their own artists in the affair of laying out, planting, etc. Since the introduction of Mr. DOWNING'S works on Architecture, Landscape Gardening, &c., a spirit of emulation has arisen among us, and men of taste are no longer content to follow in the footsteps of their predecessors, but putting aside the old fashioned way of doing things, strive to combine the ornamental with the useful; and in effecting this change, this journal has contributed in no small degree.

In the matter of laying out and ornamenting grounds, the architectural designs must be kept in view, and the grounds arranged in such a manner that there may be perfect harmony existing throughout. Much also depends upon the situation and surrounding objects. If the site chosen be on the banks of a river or lake, terraces, with broad steps and balustrades may be adopted. Terraces are at all times beautiful objects in themselves, and particularly so, when from them a person is enabled to rest his eye upon a broad sheet of water. What person of taste, who has ever sailed upon the clear and placid waters of

Seneca Lake, has not admired the beautiful terrace gardens at Geneva? What splendid opportunities they afford for the display of flowers and taste. In gardens like these, many plants which, in other situations, would be considered too tender to stand the winter, would there flourish, protected as they would be from piercing winds in their sheltered situation, and from late and early frosts, by being subject to the genial influence of the lake.

Or if the place intended to be laid out, should happen to be situated on ground slightly elevated, with perhaps a hill clothed with verdure rising near, which frequently occurs in our varied landscape, then the grounds can be planted in such a manner as to make the hill appear a part of the whole. Such an object ought to be particularly kept in view, in the formation of new grounds. This is applicable to places of a few acres to several in extent. In planting such a place, a belt of trees ought to surround the grounds, or at least a part of them, always planting in such a manner as to bring every object of interest into view. The outward, or boundary line, should be planted with the larger growing trees; the smaller kinds and shrubs, in succession, so as to make a perfect screen, except in such places where it is desirable to obtain a view of any object. The belt should be planted in such a manner that a serpentine walk may be carried around the inner boundary, or between it and the lawn. Straight walks in such places should be avoided as much as possible, because, in traversing a straight walk, the whole is taken in at a glance; whereas, by adopting the serpentine walk, the scene is continually changing, and the eye meets variety at every turn.

And now for the greatest point of attraction—the lawn. What can be more beautiful than a well kept lawn, with its drooping

trees, and beds of flowers, and many other attractions? No matter however beautiful a place may appear, it is still incomplete without its due proportion of grass; in fact, a well kept lawn lends a charm to all surrounding objects, and gives effect to the whole. In the formation of lawns, I would recommend the laying down of turf, in preference to seeding one. When a lawn is sown, it takes a great length of time to get a good turf; whereas, by laying one down, a fine even surface is obtained at once, and a beautiful verdure. Fancy figures may also be cut around the edges, or in different parts of the lawn, for the planting of flowers in masses, such as Verbenas, Petunias, Fuchsias, and the like. Drooping trees should also be planted in different parts of the lawn singly; the beauties of which, I need not here descant upon, as it has already been so ably done by Mr. BARRY, in the last number of this journal. All close fences, or any unsightly objects, should be hid by trees, or covered with climbing plants or creepers. A plant admirably adapted to this purpose, is the Virginian creeper, *Ampelopsis hederacea*; a plant indigenous to the country, and which few people seem to realise the full utility of. It is a very rapid grower, and will attach itself to almost anything. Close to the Genesee falls, is a mill, one end of which is nearly covered with it. I should say it had grown sixty feet in height or more; and clinging to the wall, or hanging in graceful festoons, when viewed from the opposite side of the river, the effect is beautiful; and in the situation it occupies, it seems to associate itself with some time honored castle.

Almost all our native forest trees may be advantageously used in planting, and particularly evergreens; and, as the artist must use his own judgment in the selection of trees, he could not do better than make them

in October. He will then have an opportunity of studying the forest trees at a time when every colour is shown to advantage, and when every variety of tint, light and shade can be studied; and in planting, by striving to copy nature as near as possible, will hardly fail of success. I would not by any means recommend the planting of too large a proportion of forest trees; for evergreens ought to occupy by far the greatest share, the most desirable of which are the White Pine, Spruce, Hemlock, Balsam Fir, and White Cedar, which is quite important, as it makes most admirable screens, and, when planted singly, forms a most beautiful pyramidal tree; it will also bear pruning better than any other evergreen.

In regard to the formation of the carriage road, due care should be taken to have it approach the dwelling in gentle and easy curves; for on this depends much, as by carrying it up to the dwelling in a straight line, it would have the effect to mar the whole; whereas, by carrying out the curved lines, a perfect harmony will exist throughout.

These hints are only intended for those persons who are unable to obtain the services of a professional gardener, but still may wish to embellish their grounds. Let them commence at once and fear nothing; and may success attend all their efforts.

WM. WEBSTER.

Rochester, Sept. 13th, 1850.

SKETCH AND PLAN OF A TOLL GATE-HOUSE.

(SEE FRONTISPIECE.)

HAS anybody seen a toll gate which was not ugly? We fear the number of affirmatives will be very few. And yet the building is one that might be rendered picturesque in many ways—whether built of wood, stone, or brick. In some instances, where the turnpike is profitable, a substantial cottage of considerable size might be erected,—the gate itself being under cover, and the whole composition made architectural. In others, a smaller building, of one story high, might be made expressive by simpler means.

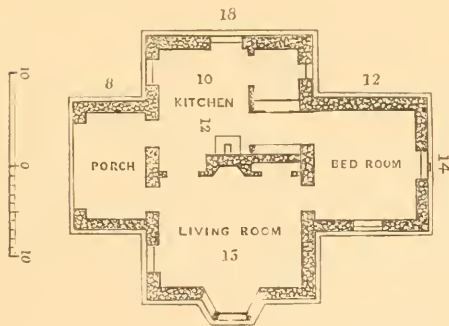
The frontispiece exhibits a sketch or study (but without any of the appropriate accessories of trees, etc.,) for a simple, but architec-

tural cottage for a toll gate. The large open porch, in which the gate keeper stands to receive his dues, is in character with the purpose of the building. Though the whole is but one story high, the plan shows a living-room 12 by 15 feet, a bed-room 11 by 12 feet, and a kitchen 10 by 12 feet; the latter with a small room, intended for a store-room or pantry, partitioned off from it.

Such a cottage as this, in a district where either stone or wood is cheap, may be built for about \$400; and would, we think, be far more agreeable to the eye, as well as more convenient, than the majority of our toll gate-houses.



TOLL GATE HOUSE.



PRINCIPAL FLOOR.

[Hort: Oct. 1850.]

MULCHING AND PLANTING FRUIT TREES—MULCHING STRAWBERRIES.

BY LEWIS F. ALLEN, BLACK ROCK, N. Y.

JEFFREYS says he is going to tell you a story about mulching. So am I. And as he, like Teucer of old, lets fly his arrows from behind the shield of Achilles, or—what is quite as potent in these more peaceful days—in the shade of an *incognita*, I choose to be more bold than he, and tell my story under my own sign manual, letting it go for what it is worth; and as he appears to have taken to farming for the remainder of the season, I may possibly be allowed to tell my story without his commentaries upon either its wisdom or its folly.

In the July number of the Horticulturist, volume 4, I gave some account of my plantation of orchards. I now continue it. After planting my pear trees in the spring of 1849, I *again* ridged the orchards with the plough, so as to increase the crowns and depress the furrows of the "lands" still more than when the trees were set out,—the line of trees being the crown of the ridge,—and sowed it into buckwheat, as I had proposed, of which I had a fine crop,—leaving the land light, smooth, and in good shape. Thus it stood through the past winter; the young scions, which I had put into the stocks, having made a good growth, although suffering under a severe summer drouth. Last spring, on examination, I found the land light, and in fine condition for harrowing down, which I did in the month of April, with a seeding of oats and grass,—making it smooth as a garden with a fine harrow. I have cut an abundant crop of oats, leaving the soil smooth and regular for the future grass, and the next season's mulching of the trees.

I will here remark that this pear orchard is, in area, about eighty rods from east to

west, and twelve rods from north to south, giving fifteen rows of trees, twelve feet apart, and having a gradual inclination from west to east; and the crown of the ridges standing about eighteen inches above the depression in the furrows. The whole orchard is nicely drained; each furrow leading off its own water into a general cross drain on the lower side. Another thing I will remark: many of my trees having come a distance of several hundred miles, and been two or three weeks out of the ground—some of them packed in *dry* straw, without moss, and badly done at that—they had become quite dry and shrivelled. These I laid at once into the ground, both root and stock, full length, and covered heavily with moist earth, where they remained several days, until fully swelled up to their natural condition, when I trimmed them closely and planted them. Under such treatment I saved many that, with common usage, would have been altogether lost. But to have done exact justice to them, they should have been mulched, as I am about to relate I have treated others. Had I done this, I should probably have saved the lives of several, which I lost in consequence of bad packing, a long passage, and the cruel mutilation of their roots, in carelessly taking out of the ground by the nurserymen, or their laborers. And here—although I do't mean to say offensive things to a very worthy and indispensable profession—I feel obliged to assert, that there is altogether too little care practiced by some of our nurserymen in taking up and packing their trees. The only object appears to be to get rid of them, regardless of their fate, and, *seemingly*, by the process they practice, to make their lives as brief as possible.

Among the trees received last spring from New-York, were several hundred young French seedling pears—all dry, shrivelled, and apparently dead, having been out of the ground several weeks in crossing the Atlantic, together with the cullings of the American trees of larger growth, intended for immediate orchard planting, but which I rejected for that purpose from their bad condition. These I planted altogether in nursery rows, to grow for future use, and placed a thorough mulching of last year's buckwheat straw, three or four inches thick, over them. The larger trees I cut off and grafted when they were set out; the smaller ones I topped when planted. The result has been that I have lost very few of them, although the early part of the season was cold and dry, and many of them have made good growth.

EFFECTS OF MULCHING IN THE ORCHARD.—Having planted about six hundred apple trees four or five years ago, upon a good piece of clayey loam, based on a clay subsoil, then under the plough, I soon after seeded it into grass, laying the land into ridges two rods apart when seeded, as with my pears, just described, and have since kept it for mowing. I kept the earth forked up well every year around the roots, and prevented the growth of grass about the trunks. In the spring of 1849, I dug round them, *outside* of the previous forking, a spade wide and a full spade deep, and filled that circular trench, so made, with barn-yard manure—say a wheelbarrow load to a tree, and threw the inverted sod of the trench upon it, while the under soil was thrown on the forked surface round the stem. The summer afterwards was extremely dry and hot, and the trees made little growth; indeed, they seemed injured from the treatment. Determined, however, to try the virtues of mulching, early last spring I took a quantity of old fresh marsh (not salt) hay, and buckwheat straw, and put

around each tree a heavy pitchfork full, spreading it out for three or four feet each way from the stem, averaging perhaps four inches thick; all the remaining soil lying in heavy timothy and clover for meadow.

Now for the result. The summer's growth has been surprising. Shoots one, two, and three feet long have been made from almost every tree. The full bloom of the trees has been followed by an enormous crop of apples, which, unlike trees of feeble growth, have held on their fruit with wonderful tenacity, induced, no doubt, by the strong and vigorous stems which their enlarged growth has given them. During the dryest time of the summer—and until July commenced it was very dry—on lifting the straw, the ground was moist and cool about the roots, while outside the mulching it was dry and cracked. Moss, which had in some instances become *set* upon the trunks, peeled off and dropped; and the whole orchard has assumed an entirely different complexion. This mulch, for fear of mice next winter, I shall remove early in the fall, to be replaced, together with a fresh supply, next spring, when I purpose to mulch *all* my orchard trees of every description in the same manner; satisfied that I can do nothing so serviceable to their growth and health.

PLANTING ORCHARD TREES.—Having on hand in my nursery about twelve hundred apple trees, which were ready for planting, on about thirty acres of ground, which was then mostly in old meadow, I last fall put in a heavy team and turned the whole of it—excepting about four acres—over with the plough, nine inches deep, in “lands” two rods in width, on the ridges of which I intended to plant the trees. In the latter part of April last, I went to work in good earnest,—the frosts of winter having beautifully pulverised the soil, and made it friable as an ash-heap. The weather was cold and tempestuous, and sometimes frosty; but as the season was ad-

vancing, the work could not be postponed. Taking my foreman along, who, in his labors with me, I have learned to be as good a planter as myself—and I *do* know how to plant a tree—with four men, making two parties, we commenced. Before breakfast in the morning we went into the nursery and took up as many trees as would last us through the forenoon, which, immediately after breakfast, a cart took out into the field, and distributed in parcels of a dozen or twenty each. We first laid out the orchards (two separate pieces of land being allotted for the purpose,) with an outside row of trees planted entirely around it, two rods apart, and two cross rows, one each way through the centre, for the purpose of “lining” the trees in straight rows as we set them. In this *engineer* planting we had two extra men. Our tools were a shovel and a spade for the two men in each party, and a hoe each for ourselves. The sods were removed for a space about four feet in diameter,* down to their ploughed depth; the subsoil loosened, but not thrown out, about three inches below; then an inverted bed of sod thrown into the hole, so as to leave the tree, when planted, slightly above the level of the general surface; then the pulverised earth thrown in upon the roots about three inches deep, which were all nicely and carefully spread out as when they stood in the nursery. Over this were laid the inverted sods, to the height of two to three inches above the *neck* of the tree as it stood in the nursery; so as when the sod decomposed and settled, it should leave the stem fair; cut off the top of the

tree when too high, thinned out and cut back the branches, trod the sods firmly about the roots, and the work was done. After dinner, another complement of trees were taken up in the nursery as before; and in six days our twelve hundred trees were planted, as such a number of trees are seldom planted in *this* country. But we *worked!* Two sets of us—one set of men to a row.

As I before remarked, three or four acres of this planting was in sod meadow. Here we excavated holes four feet in diameter, and a foot to fifteen inches deep. The sods, as we dug them, were thrown on to one side until the hole was finished. When this last was done, the sods were thrown into the bottoms of the holes inverted. We had an ox cart along with us, which was kept filled with the choicest mould from the adjoining ploughed ground. The roots of the trees were spread as before upon the inverted sods; and the hole entirely filled to the surface from the cart, upon which the excavated earth just taken from the holes was packed; making a mound like an inverted dining plate, to settle—as with the trees in the ploughed ground. That ended our labors.

And now for the result. The season, far into summer, was cold, backward and dry. Since the first of July we have had good rains, so that there is no fear of suffering from future drouths *this* year. I examined my whole orchard the other day, in company with Col. Hodge of the Buffalo nursery, Mr. Bryant of the Erie nursery, and Professor Coppock, who were a committee of the Buffalo Horticultural Society for the purpose; and *every single tree of the twelve hundred was alive*, and most of them had made from three to eighteen inches growth of young wood on the single limb since planting! Nor were they an extraordinary select lot of trees. They were from an inch to one and a half inches in diameter at the base, five to eight feet high,

* The following incident shows how little *gunption* most laborers have about tree-planting: A year or two ago I sat a couple of men (and good diggers they were, too,) at work to dig holes for my fruit trees, and gave them a stick four feet in length for the diameter of the holes, which were also to be eighteen inches deep. After they had dug part of a day, I went to look at their work. The first half dozen holes were pretty well; but after that, they gradually tapered off till they were hardly as big as your hat! And when asked why they didn't work up to the rule, very gravely answered, that it was too much trouble to carry the stick, and they thought the holes big enough! A fair specimen of *our* country work.

root grafted, vigorous and healthy. But I do not claim *all* this exemption from loss in the superiority of their planting. The immediate planting of the trees after their removal from the nursery, before the roots got dried—although some of them *did* get a good deal withered, as they lay for hours exposed to a drying wind and an open sun, (which was all wrong, for dirt should have been thrown over them,) I consider a great advantage. Nor were the roots extraordinarily well taken up. We worked sharp. I did not superintend all *that* part of it myself; but either my foreman or myself saw *every tree* well planted; held it up as the earth was thrown upon it, and shook it up and down as it was filled in, that the soil might become well incorporated with the roots.

I should like to show that orchard of trees to any one. Next spring I intend to mulch them as I did my others; and if they don't show growth, it will be strange. I ought to say, in giving you the whole story, that this thirty acres of land is in various crops this year: corn, potatoes, buckwheat, spring wheat, oats, white beans, ruta-baga, sugar beet and carrots, hoed and sowed crops, and the trees nearly alike in appearance over all; but if any difference, the trees in the hoed ground are the best. I intend ploughing all the land again the coming fall, chiefly for next spring *sowed* crops, when I shall seed the whole into grass for mowing; and in the ploughing, ridge the earth up to the trees in "lands" two rods wide, with a good "dead furrow" between each to pass off the surplus water.

I will further remark, that there were some low places in this orchard ground, as a small portion of it had never been ploughed before,—having been cleared off but a few years ago—and in pasture; and there are two or three low *swales* or ravines in it, where the water runs in the fall and spring. In these swales, where is a heavy, black soil, I set the

trees on the top of the ground, or dug but very slightly for them, or even raised a table of earth to plant them on, as circumstances required, intending hereafter to throw the ground into proper shape by ploughing, and opening furrows and ditches, so that no standing water may remain. Ten acres more of ground I have left for orchard purposes, now in sod, which I intend to plough this fall and plant next spring, as I have before done; and this gives me 2,200 trees in my *apple* orchard,—completing, in all my fruits, a plantation of eighty acres of orcharding; after which, I intend to take a rest.

MULCHING STRAWBERRIES WITH SPENT TAN-BARK.—Professor Coppock, in the July Horticulturist, recommends this; but I can beat him in the *trial*. In grapes, I give it up altogether; for I am not a grape-grower, and he is—an accomplished one, too. I know of none better.

Wishing to add some new varieties to my strawberry family, I sent, late last fall, to Mr. M. G. Warner, of Rochester, for one hundred each of Black Prince, Burr's New Pine, and Rival Hudson. He sent my order, principally filled, with three hundred of the handsomest plants I ever saw; some of them with roots, fresh and young, six to nine inches long. They were beauties; (everybody *do'nt* do so.) It was November. I planted them in a *spent* vegetable bed in the garden—clay loam soil—intending them for propagating solely. I had cut off my asparagus *haulm*, and after planting the strawberry vines *as they should be*, I covered them with the haulm, and laid a few sticks across to keep it from blowing off for the winter,—supposing it would give them sufficient protection. But not so. The winter was open and bare. Looking in upon my bed about Christmas, or New Year, I found that many of my vines were lifted out by the frost,—the haulm not lying close enough; and saw that I might

lose them if not better protected. I at once got a load of *spent tan*, and covered the bed thoroughly over with it, perhaps two inches thick, and let them go for the winter. Early in the spring I began to stir among them, and found them fresh and starting. I let them alone. In due time they came up vigorous and beautiful, and bore delicious crops, all clean and fresh, without a weed about them, far beyond my anticipations; and they are now running and striking in all directions, furnishing me with multitudes of plants for my new beds.

A word or two, now I am on the subject, as to the quality of the different varieties of strawberry, as I have found them.

Large Early Scarlet. The best berry for a crop, probably, taken altogether, that we have. A vigorous plant; a great bearer; fair size; of delicious flavor, and a beautiful colour. I planted, a year ago last April, a bed, in ridges three feet apart, fifteen inches apart in the ridge, on moderately good clayey loam, with only ordinary care; wed them but twice, and let them all run together, on about twelve square rods of ground. Last June I gathered about two hundred and sixty quarts of berries from them, and would have got over three hundred, but the severe drouth which came on when they were about half picked, pinched them so that they did not fill out, and reduced their size full one-half.

Hovey's Seedling. Large in size, and coarse in flavor, of necessity*—yet quite a favorite; and, with good, rich culture, and plenty of staminate among it, a tolerable bearer. Not fit for a crop, yet I would always cultivate it for variety.

Boston Pine. A fine large berry, and of good flavor; wants rich culture; but the stem is too short; does not throw its fruit high

enough from the ground; yet a good fruit, and, like the Early Scarlet, not requiring the admixture of other kinds for fertilizing. It is a few days later than the Scarlet.

Burr's New Pine. A splendid, and a good fruit; one of the very best. Large enough, early, prolific, fine in colour, and of the highest flavor; it promises well for a crop, and ripens with the Early Scarlet.

Burr's Rival Hudson. The most prolific that I have seen. Deep red, almost crimson in colour; slightly necked; fine rich flavor; fruit beautifully set in clusters of five to eight or ten berries on a high stem, and frequently all ripe together; a few—say three or four—days later than the New Pine in ripening. The most beautiful growing berry I have known.

Black Prince. With all Mr. Downing's, and other eastern praise of it, it does not prove equal here. The colour is bad—too dark to be delicate; flavor insipid, or sour; a low, branching, straggling stem; and grown side by side on the same bed, and with the same culture as the two last named, is much inferior—not to be named in the same chapter.

I speak of all these as they have proved with me, in only one year's cultivation; which is, I grant, too short for a thorough trial. In the plantations of an acre or two which I am about making, my chief stock will be the Large Early Scarlet, Burr's New Pine, and the Rival Hudson, with a few Hovey's Seedlings.

But it is time to stop. I have made this long story about mulching, because I am satisfied that no labor to promote the growth of trees, for the same expense, can be made so productive as this; and I am now cutting many tons of coarse marsh hay for next year's use, and intend mulching everything of the tree kind which I cultivate, even to my currants and gooseberries; which last, with the

* As a rule, all monstrous fruits must be coarse. Extraordinary size must be obtained at the expense of some other quality in pretty much everything, both vegetable and animal.

addition of salt upon it, I fully believe, with some other of your correspondents, will prevent the mildew. And if any so simple proposition can avail, I shall try it *heavily* and

broadly on a few plum trees, to see whether it will stagger the *instinct* of the cureulio!

LEWIS F. ALLEN.

Black Rock, August, 1850.

ON RAISING PLANTS FROM CUTTINGS.*

BY M. NEUMANN, PARIS.

XIII. CUTTINGS OF LEAVES.—A single leaf cut near the stem and planted, is sufficient, in some plants, to produce new individuals. The leaves intended for this operation ought not to be pulled off the stem; there is no need of taking away the eye which shows itself at their axil; in this method of striking by cuttings it is not the eye which develops itself, as many people imagine; the effect which takes place is similar to that produced when cuttings are struck from the branch of *Abies* (see fig. 16.) It is upon the cluster of small bubblets which form on certain parts of the leaf, that the shoot shows itself.

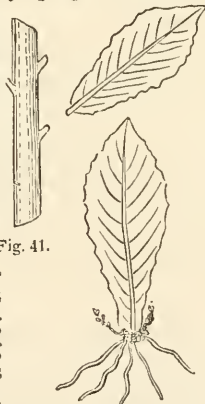


Fig. 41.

Fig. 41 indicates at what place we may cut the leaf without hurting the plant; the leaf being placed in the earth forms a callus at its base, fig. 42, whence the roots, and consequently more shoots spring up.

Fig. 42.—Cuttings of leaves of *Theophrasta latifolia*.

Leaves intended for cuttings should be taken about the middle of a branch; the result is more certain than if we chose the lower leaves. *Gloxinia*, *Bryophyllum*, *Lilies*, &c., multiply well by such cuttings.

If we wish to get on very quickly, the midrib on the lower face of the leaf may be broken in several places, without injuring the limb, and so lightly that the broken places can scarcely be distinguished; the lower face of the leaf is then placed on the earth of a pot. Soon at each fracture a little callus develops itself, which gives rise to roots, as is seen in fig. 43.

Some leaves, when employed as cuttings, send out roots and buds at each incision, as, for example, in *Hemionitis palmata*, *Bryophyllum*, &c.—Fig. 44 shows how this effect is produced.



Fig. 43.—Leaf of *Gloxinia*, prepared as a cutting.

Cuttings of leaves are often a long time before they show any sign of succeeding; the care which they require is in consequence of their delicate nature; most especially, must attention be paid to burying the end of the petiole, or the base of the leaf. When their buds are strong enough they may be accustomed, by degrees, to the free air of the green-house, in which they are to remain, then treating them like cuttings from branches.

Having succeeded with the leaves, of which I have just spoken, I tried, in 1839, to multiply *Theophrasta latifolia* with its leaves cut in two, with which I made two cuttings;



Fig. 44.—Leaf of *Hemionitis palmata*, used as a cutting.

these portions took root and developed buds, as is seen in fig. 43. This experiment evidently proves that some plants may be reproduced by cuttings of the midrib of their leaves. The primitive bud, as I have remarked, rises from the callus above the root which first shows itself, and about 1-16th of

an inch from the base of the midrib. The dotted part, shown in the upper half of the annexed leaf, was removed in order to put the leaf into a little pot, but this did not prevent the success of the cutting.

SCALE-CUTTINGS.—

These cuttings are made with the scales of Liliaceous plants; such scales are planted either upright or flat, are covered with about 1-16th of an inch of earth, and are placed in an atmosphere neither too dry nor too moist: it is in this manner that quantities of Japan lilies are multiplied. Liliaceous plants are also propagated by cutting their leaves in two or three places along their length; such leaves do not send out roots, but they give birth, at their mutilated parts, to little scaly bulbs which, the following year, are separated, and afterwards managed like the cloves of bulbs.

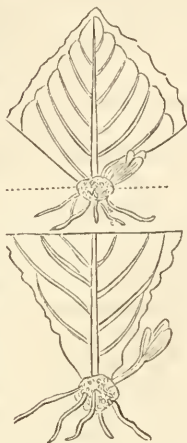


Fig. 45.—*Theophrasta latifolia*, struck from cuttings of a leaf.

CUTTINGS IN WATER.—This kind of propagation demands constant care and minute attention. We employ ripe wood, as in cuttings of branches. As soon as the roots commence lengthening, which we can easily see through the sides of the bottle in which the cutting is placed, we immediately take it out, and plant it in a pot, where it is treated as if it had no roots, until we see that they have reached the sides of the pot. The cutting is then sufficiently strong to be gradually accustomed to the atmosphere in which it is to live. I have thus made plants take root, which I have not been able to multiply by any other means. In consequence of the difficulties which this proceeding offers, I do not advise the practice of it, except for Pine-apples,



Fig. 46.—A Pine-apple struck in water.

when it is rather an amusement than a truly useful thing. A sucker, or better, a crown of a Pine-apple, previously dried, and put into a decanter or bottlefull of water, and placed upon the stove of a green-house, or of a room, and exposed to light, will grow and produce a small fruit, which will have as much fragrance as one grown in earth, (fig. 46.)

CUTTINGS IN TRENCHES.—The plan of striking cuttings in trenches is generally adopted in the Colonies for sugar-canes and bamboos. For propagating the cane, we use cuttings 10 or 12 inches long (fig. 47,) which we lay horizontally in a little trench 9 inches deep. We then cover them with a little earth, and in a short time they send forth roots and buds at each joint. The bamboo is multiplied in the same manner. If we lay a longstem in a trench, the young buds which come out of each of the joints will soon make a little plant.



Fig. 47.—Cuttings of a Sugar-cane.

In green-houses, where the space does not allow of cuttings of this sort, bamboos are multiplied quite as well by placing them upright in the ground

XIV. SLIT CUTTINGS.—There are some plants whose cuttings root best if a slit is made in their lower part, a piece of sponge being introduced, as at fig. 48; *Carolinea*, arborescent *Bignonias*, &c., take root well in this manner.

LAYER CUTTINGS.—For plants difficult to

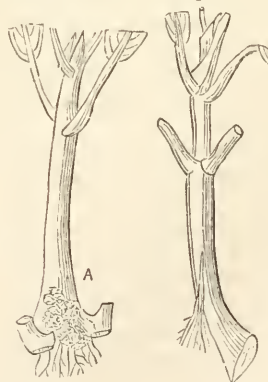


Fig. 48. Fig. 49.
Cuttings of arborescent *Bignonias*.

strike I have thought of what I call layer-cutting (fig. 49), from which I have obtained good results. This consists in making a lon-

itudinal incision down the cutting; we then insert a wedge, to keep the wound open; without this precaution the two parts will soon join, and the operation fail. The upper part of the incision ought to be nearly level with the earth in the pot; it sometimes happens that the roots issue at one and at the same time from the slit and the base of the cutting.

CUTTINGS OR GRAFTS UPON ROOTS.—I have often employed the following method of striking plants which are difficult to multiply

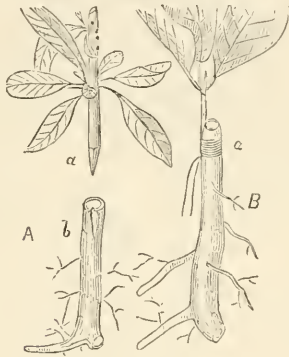


Fig. 50.

by cuttings. The process may be slit-grafting, as in fig. 50, or crown-grafting, as in fig. 51. The ligatures must be of worsted; care should be taken not to cover the upper part of the roots of these grafts, or at least very little. In such operations the cutting either adheres to the root as an ordinary graft, and pushes in the same way, or the root does nothing more than nourish and hold the branch fast with which it is in contact, until it forces it to send roots into the soil; the cutting is then on its own bottom, as we say. Tree *Pæonies*, *Dahlias*, &c., as everybody knows, are multiplied in this manner. The case where the branch joins itself to the root is rare; I have only observed it upon *Grevillea*, *Morus*, *Averrhoa*; there is every reason to suppose that by the same means we might obtain similar results on several other trees, and I propose to try the experiment on plants which cannot be multiplied by the ordinary means. In this sort of multiplication it is not necessary for the branch to be grafted on the same root from whence we have taken it; but we may work on individuals of the same kind, if we only take care that the root is in proportion to the size of the plant.

STRIKING CUTTINGS WITHOUT HEAT.—

For some time past I have tried to strike without heat, hot-house cuttings, which do not like to root in tan. Cuttings of *Bugainvillea spectabilis* thus treated have perfectly succeeded. *Stephanotis* succeeded equally well when struck either in cold or heat. I might conclude from this that we may obtain the same results in striking cuttings whether they are placed in heat or not; but this is for time to determine. Moreover, cuttings exposed to the high temperature of 36° centigrade (98° Fahr.) will shoot with as much certainty as the same plants placed in a green-house,

and subjected to a heat of only 7°, 8°, or 9° (45° to 50° Fahr.) In the last case, cuttings will only take when the sun raises the temperature to 25° or 30° (80° to 87° Fahr.) but then, as they have to bear a low temperature at night, they will demand more time to root than those which, placed in a hot-house, are in the midst of an atmosphere nearly equal day and night. Attempts of this nature cannot be favorably tried in the autumn or winter, the temperature being then too low; we shall have more chance of success if the operation takes place in spring or summer.

In conclusion, let us observe, that so many circumstances affect the method employed for multiplication by cuttings that we cannot foresee with any certainty whether we can succeed in striking even the less difficult plants. We must be constantly trying experiments, for the conditions favorable to vegetation vary according to the strength of the plant, and according to the temperature; moreover, the dryness or moisture of the atmosphere of the house, the earth which we use, the light or shade to which cuttings are exposed, favor or oppose their success. This, however, seems to be shown by practice, that the result is always more satisfactory in a house entirely shaded, than in that in which

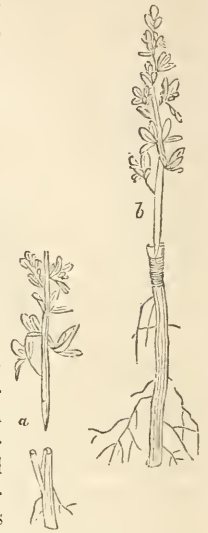


Fig. 51.

light has free access; also that success is more certain in summer than in winter. The perseverance of a gardener ought never to be exhausted; he will be always discovering

something worth knowing, and the results to which he arrives will recompense him for the care and patience expended in his experiments.

THE FRUITS AND FRUIT TREES OF MOROCCO.

BY T. H. HYATT, LATE U. S. CONSUL AT TANGIER.

A. J. DOWNING, Esq.—*Dear Sir*: Knowing the deep interest you take in all horticultural subjects, and particularly in that branch which relates to Pomology, or the culture and production of fruit, and appreciating, in some measure, the great pleasure and instruction, which, in common with thousands of my countrymen, I have derived from the perusal of your valuable works on these subjects, and from your excellent Magazine, I feel it a pleasant duty to add my mite, small as it may be, towards forwarding the laudable objects of your publication, by communicating such items of knowledge in relation to the Fruits and Fruit Trees of this strange country, (about which so little is known abroad,) as may be pleasing to you, and interesting, if not instructive, to your readers. And I propose to illustrate the size, form, &c., of some of the kinds of fruit I shall describe, by such drawings as I have taken, from time to time, and which I happen to have at hand.

The Empire of Morocco, from the Great Desert to the Straits of Gibraltar, or the borders of the Mediterranean, embraces a latitude of about seven and a half degrees—extending from lat. 28° N. to 35° 48m. Within this territory the climate is mild, uniform, and remarkably temperate. There is never any snow, and seldom any ice or frost, excepting upon the summit of the Atlas Mountains, or in their immediate vicinity; and these perpetually snow-clad mountains stand as an everlasting and effectual barrier to check the dire sirocco of the desert, and to prevent the

blasting winds from sweeping over and laying desolate the fruitful regions of the Empire which lies to the north of the mountains; and while the winds are thus disarmed of their noxious and withering power, and made bland and genial and invigorating, the waters which flow from these perpetual fountains of irrigation, replenish the streams and rivulets, and distil their fructifying influences upon the plains and vallies, far and near. Thus wisely does the God of Nature ordain all things.

With such a climate, and with a soil naturally rich, fertile and deep, and possessing the elements of indestructibility to such a remarkable degree as never to seem to wear out or deteriorate—what might not be produced by an enlightened system of culture! And yet, with the semi-barbarous modes of culture which prevail, or rather in spite of them, some of the finest kinds and qualities of fruit in the world, are produced in this country. Most of the tropical fruits, and many of the more hardy, grow here, in perfection. The former succeed, however, better than the latter, and are much finer. In the gardens and plantations about Tangier, Tetuan, Larache, and, I believe, nearly all the principal cities of the Empire, the Orange and Lemon, the Olive, Pomegranate and Fig, the Lime and Citron, the Apple, Pear, Plum, Cherry, Peach, Apricot, Quince, Almond, Mulberry, &c., as well as the vine fruits, the Grape, Strawberry, Blackberry, &c., are cultivated more or less extensively. But let us treat of them more in detail.

THE ORANGE AND LEMON.—These are exceedingly fine and grow to great perfection. The fruit is usually above the medium as to size, and sometimes it is quite large, as will be seen by the above drawing of a lemon raised in a Moorish garden on the eastern slope of Mount Washington, some two miles west of Tangier. The trees are in blossom nearly or quite every month in the year, and the fruit of the various kinds is fit for use from September to June, and will remain upon the trees nearly that length of time, if left unplucked. The same trees have on them fresh blossoms and ripe fruit at the same time—and thus produce a succession or continuation of fruit for nearly three-fourths of the year. The trees, although slow of growth, grow to a large size—I have seen some with bodies over a foot in diameter, and from twenty to twenty-five feet high, with tops large and branching in proportion. In cultivating, the Moors graft the young seedling, when two or three years old, as they stand in the nursery, by cutting off the stock near the ground, and inserting the graft in a manner similar to our “whip grafting.” The best age for transplanting the young trees is at two or three years from the graft. The transplanting may be done at any time during the winter, *when the trees are not only in bloom, but in fruit.* This is quite the reverse of the theory and practice we have in the States, on this point. But I have tested the truth of it. In January, 1849, I procured about fifty young orange and lemon trees from the garden or nursery of the Moor at Mount Washington, (above alluded to,) of from three to six years growth from the graft. When taken up, nearly all of them were in blossom, and several had on them full-grown fruit—and, with the exception of two or three which were too old to be transplanted successfully, they all lived and grew thriftily; some which had fruit on when they were taken up, bore also the following season. These trees,

like all others, are planted very deep. At first, on seeing what a deep pit my Moorish gardener was digging for them, (some three feet,) I said to him that he was digging their graves. “*No, mazian*”—very good, replied he. And I found this deep planting to be necessary, in order to have the advantage of the moisture which could not be obtained near the surface of the earth. And as there is no hard pan in the soil, the roots penetrate to a great depth in the light, porous earth.

There are a number of large Orangeries in the neighborhood of Tangier. The Bashaw of Tangier has a very fine one, embracing, I should judge, eight or ten acres, and some 500 thrifty trees. He has also a still larger one at Lareche, his summer residence, some 60 miles from this, on the Atlantic coast—which I visited in November last. This plantation contains about fifty acres, and perhaps 1000 trees in full bearing—many of them quite large. There is a fine stream of water running through the plantation, with reservoirs, fountains, and conduits, for irrigation, that impart to the whole an appearance of freshness and fertility. In the midst of these Elysian bowers, with pretty summer houses hard by, the Bashaw has luxurious bathing fountains, where he at times regales himself, and where, occasionally, the dark-eyed houris of his harem are permitted to indulge in their favorite luxury, with all the voluptuousness of oriental life.

Some of the finest orange groves that we have seen, belong to the Bashaw of Tetuan. On a visit to Tetuan, in December, we were invited to breakfast with His Excellency of “many tailed honors,” at his castle. The table was spread in a beautifully arched alcove of the palace, with a trellised, vine-covered arbor connecting it with a lovely marble fount, with its sparkling, chrystal waters swimming with gold and silver fish, and these of many a variegated and brilliant hue. Spread out beyond and around these, was a pretty flower gar-

den, redolent with the spicy perfumes of the various aromatic flowers and plants which embellished this little rural clysium. With such an enchanting outward view, little reeked me of the savoury viands or the rich plate of gold which adorned the table before us. After our repast, I took a stroll through these flowery labyrinths, while my little daughter, (*Jenny*.) was conducted into the harem, to have a glance at those cloistered beauties, a view of whose charms is contraband to all lords of the creation, save their own royal master. Much as I am devoted to the beauties of outward nature, I must confess that my thoughts would occasionally stray from the floral beauties around me, to those languishing beauties within. And if the glance of a sparkling black eye, and a bewitching smile, and a look of ineffable roguery, thrown obliquely from the barred windows of those upper chambers, were contraband salutations, who would not be the contrabandist to welcome them?

Pardon this digression. I did not intend to reveal the secrets of the harem—nor could I, if I desired, give a minute description of those retreats around which so much marvelous and romantic mystery is interwoven. Those among our friends who have the curiosity to gain further particulars under this head, are referred to the "*Yarns of our spinning JENNY*"—they will speak more authentically than can the writer of this.

The Bashaw invited us to visit his gardens and orange groves, of which he has a number in the vicinity. They were better improved, and in finer condition, than any other Moorish gardens we have visited. The grounds and walks were clean, and the trees thrifty and fruitful. The oranges were larger than any I had seen, and were sweet, and of a delicious flavor.

Orange and lemon trees are usually planted in rows, about twenty feet apart, each way; and the branches often meet together. The

largest and most forest-looking trees I remember to have seen, were in an old garden near Argelia. The Moors seldom trim their trees—they are allowed to grow in all the wild luxuriance of nature. While injurious in some respects, this system is beneficial in one, at least—it keeps the earth moist beneath them.

These trees require a great quantity of water; and as it never rains in this country through the summer, they require to be watered by artificial means. The fruit may be bought here, in its season, at twenty to twenty-five cents a hundred—or much less by the wholesale.

The LIME and CITRON grow here in perfection. Their culture, mode of treatment, &c., are similar to that of the orange and lemon.

THE PALM, OR DATE.—Although there are several thriftily growing trees of the Palm in Tangier and vicinity, they bear no Dates.

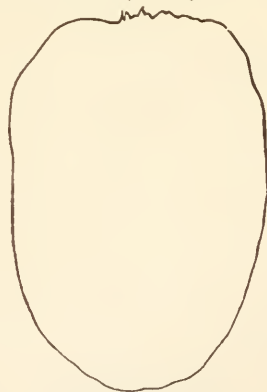


Fig. 52.—Dried Date.

And I believe none upon the sea-coast ever produce fruit; it is said that the salt-water air is prejudicial to the growth of the fruit. But the dates that come from the interior of the Empire, or from the borders of the Desert, are the finest I have ever seen from any country. The above is a drawing of one selected at random from a box I have purchased to take to the States with me. The fruit is

exceedingly rich, sweet, and nutritious. The natives are said to live almost wholly upon them in the regions where they are produced; and who could ask for more luscious or luxurious food? I have a young Palm tree in my garden, which was sent me from Rabet, but whether it will also turn out to be barren, remains to be seen. Dates sell in this market at from 10 to 15 cents per pound.

THE FIG.—This most delicious fruit is produced in great abundance, and to great perfection. Go where you will, from the patio of the humble dwelling in the city, to the

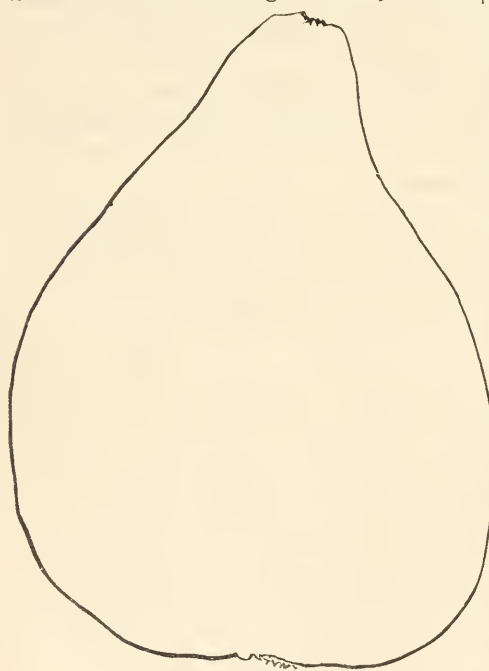


Fig. 53.—Green Fig.

garden of the suburb, or upon the fertile plain, or the rugged hill-side, or the rocky mountain-top—you will see this ancient tenant of the garden of Eden, throwing out its scraggy, drooping branches, covered with its broad leaves of glowing verdure, affording a luxurious shade for man and beast, from the fierce rays of the scorching sun, as well as food to appease the appetite, and that too, of

the most delicious and refreshing kind.

You will perceive by the drawing above, that the figs produced here are of extraordinary size. With most kinds of fruit, the largest are apt to be coarser, and not of as rich a flavor as the medium or smaller size; not so with these figs. I have never tasted more delicious fruit of the kind than these same samples from which these drawings were taken; and they were selected promiscuously from the desert-dish of our breakfast table.

From the first of June until the last of autumn, we have the fresh fig in all its luxurious varieties—large and small, green, black, and wine-colored; on breaking them open, when fully ripe, the jellied juice drops from them like the purest honey, and quite as luxurious; it is the nectar of Pomonia. They are wholesome as well as nutritious—but few of them are ever dried—I believe the main reason to be, because, where every one has a plenty of fresh fruit, at all seasons, few think of preserving for future use. The dried figs from the country, brought in by the Arabs, are not very good—care is not taken to select the best, nor to keep them clean.

The first appearance of the young fig in the spring, is very singular and unique. As early as February or March, and before a single leaf or bud begins to appear upon the tree, the young fruit is seen springing out at the extremity of the several branches and lateral boughs, in regular shape, though small,—without waiting, like most kinds of fruit, for the complimentary ceremony of being ushered into being in the wake of the usual floral pioneer. This appearance, however, although singularly interesting, is not, I presume, peculiar to the fig of this country. In trees of later bearing, or in the second or third crop, which is often produced upon the same tree, during the season, the fruit does not appear until the leaves are fully developed; sometimes the figs continue to start out after the leaves

have fallen from the tree, which usually takes place in August.

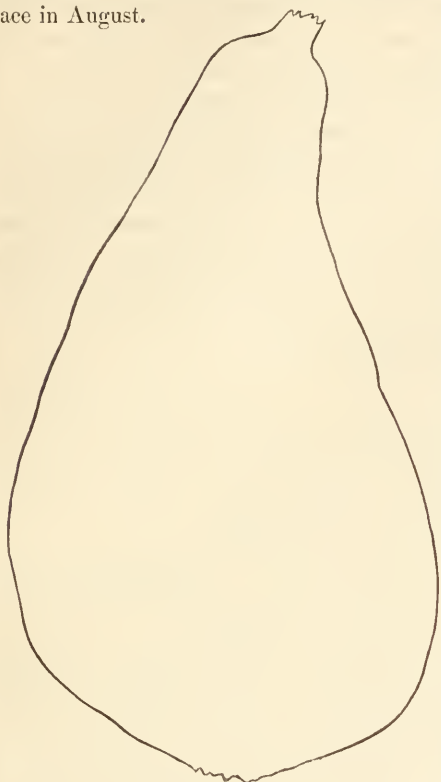


Fig. 54.—*Black Fig.*

The fig tree grows to a large size in this country; some which I have seen I should judge to be nearly two feet in the diameter of the trunk; they do not grow very high, and the long, slim, drooping and spangling branches often sweep the ground on all sides; the leaves are very large; often measuring a foot in diameter. Some of the trees are barren and unproductive, and remind us of the "barren fig tree" spoken of by our Saviour. The growth of the fig is rather slow, but it lives to a great age in this country—some that I have seen, appear to be over a century old. They seem a very hardy tree, and I do not understand why they might not be cultivated in some of the Northern States of the Union; although, if I recollect aright, there are few,

if any, reared successfully north of Virginia. Fine, fresh figs may be bought here during the season, for about three cents a dozen. Very many of the Moorish and Jewish houses in the town have large branching trees growing up in the centre of their patios or courts, which furnish a most cooling shade, as well as delicious fruit. They also give to the town, as you look down upon it from some lofty tower or observatory, quite a rural and picturesque appearance—and afford a great relief to the eye from the dazzling and almost blinding effects of the snowy white, with which nearly every house is colored.

THE PINE APPLE AND BANANA.—Of these delicious fruits, there are but few cultivated, that I am aware of, in this Empire. A few plants of the latter are to be found in the beautiful gardens of the Swedish Consul General, just outside of the town, and they appear thrifty and fruitful. And the Pine Apple, I have no doubt, would grow here in perfection, if it were but introduced.

THE VINE.—The Grape grows here spontaneously, and is cultivated largely and successfully in the various gardens and vineyards which abound in the vicinity of the large towns and villages. Although comparatively little pains seem to have been taken to obtain the finer qualities, yet I have eaten of a number of varieties here, that are little, if any, inferior to the best Malaga, Muscatells or Blooms. Both of these superior kinds of grape are to be found here, as well as many other excellent varieties scarcely inferior to them in quality—in fact, I think that some of the smaller white grapes, excel, in their rich, musky flavor, and in melting juiciness, those far-famed and justly favorite varieties, although they are not as large and beautiful. Many of these choice varieties are, I doubt not, indigenous and peculiar to this country, but are without any appropriate name. Many of the black ones, although of a sweet, pleasant flavor, are too

pulpy, and not so juicy and rich as the lighter colors. There are a few however of a wine color, long and tapering, (sometimes over an inch in length,) that are nearly if not quite equal in richness to the white. These we call the "Ladies' fingers."

We have ripe grapes here from about the first of July until late in October—and they can be bought at about one dollar per hundred pounds. Very little wine is made here, as the Moors are prohibited, by their religion, from making, vending, or using, any kind of spirituous or vinous liquors. The Jews, however, who are not allowed, by their creed, to drink any wine or spirits manufactured by Christians, make their own wine, which is but poor stuff, and also a kind of liquor, called *aguadiente*, upon which they contrive to make themselves merry, all "according to the laws of Moses," of course!

The vine flourishes upon nearly all kinds of soil. Many of the vineyards in this vicinity are upon pure, dry, light *sand banks*, which have been blown up from the sea-shore. The leaves begin to fall in August, while the fruit is still ripening; and late in winter, before the vines start, they are trimmed, all the lateral shoots cut off, and nothing but the main branches left. Some of the more indolent of the natives turn in their calves, donkeys, &c., and let them browse off the superfluous branches—quite a labor-saving operation, as they think!

Although the vines grow thus well upon barren soils, I took pains to manure my little vineyard, and I think I had an increase both in the quantity and quality of my fruit. The vines are usually left to run upon the ground, excepting when they are used to cover arbors, trellised walks, &c.

THE OLIVE is produced here in abundance. The wild olive tree may be found scattered over all the country; but they are but little cultivated along this part of the sea-coast. In

the interior they flourish, and large quantities of oil are made for exportation, beyond what is consumed in the country. The green olives, preserved in spirits, make a very pleasant and palatable kind of conserve.

THE POMEGRANATE.—This tree, with its rich crimson ornamental blossoms, and its beautiful fruit, is to be found in almost every garden. The trees grow as large as the larger sized plum tree in the States. The pleasant acid of the fruit is relished by many people; but it is rather too "seedy" to be a general favorite.

THE ALMOND is produced to a considerable extent, and quantities are raised for exportation. Those raised in the Reef provinces are the finest I have observed, and I think I have never seen better. Few are produced in the region of Tangier.

The *hardy fruits* do not flourish as well in this climate as do those of the tropics. Among those that succeed best, is

THE PEAR.—This tree grows to a large size, but as it is never trimmed by the Moors, it has none of the tall, elegant, pyramidal, or lofty spiral shape which that tree assumes in America; but, on the contrary, it throws out its long, teenning branches from near the foot of the tree, to a great distance, in an almost horizontal direction. From a large pear tree in our garden, we cut a branch *twenty-five feet* long, which sprang out of the main trunk within four feet of the ground, and extended in a direct horizontal line, so that its lateral boughs almost swept the ground, and altogether it covered a space of nearly fifty feet in diameter. The Moors thought me beside myself on seeing the cutting and slashing I made among the superfluous branches of the various trees of the Moorish garden I had bought. But they soon saw, by the increased size and quantity, and the improved quality of my fruit, that there was some "method in my madness," and some reason in my philos-

ophy, if I were not "a son of the Prophet."

The fruit of the pear does not grow to a large size, but it is often of a fine, juicy quality. The drawing I send, is from a pear taken from the large tree in my garden, just alluded to. In its fine flavor, and juicy sweetness, it somewhat resembles our Seckel. It ripens early in June.

THE APRICOT.—The tree grows luxuriantly, but the fruit is usually small, and of inferior quality. If first rate kinds were introduced here, I doubt not they would succeed well. They ripen in May. That drawn, is from Gibraltar, and was probably raised in the south of Spain.

NECTARINES are seldom to be met with here. **STRAWBERRIES** and **BLACKBERRIES** grow here, but not of so fine a quality as in the States. We have ripe strawberries here as early as February, and until July. **RASPBERRIES** are rarely seen. The *Strawberry Tree*, growing wild upon the mountains, produces great quantities of fine fruit, as large as a medium-sized apricot, and very palatable, as well as exceedingly beautiful, with its rosy cheek, and luscious, strawberry-like appearance. I call them the "*Mountain Strawberry*," for want of a more appropriate name.

Of **APPLES**, **PEACHES**, **PLUMS**, **CHERRIES**, and **QUINCES**, there are a plenty of full-grown trees, but the fruit is not fit to eat. But whether it is the fault of the climate, or the people in not introducing the choice varieties of these fruits, I am unable to state from actual demonstration. I procured from Western New York, in the winter of 1849, a choice collection of these fruit trees, and planted them in my garden, in the spring of that year. They were packed at Rochester in the late autumn, but were detained in New York awaiting the sailing of a vessel so long that they did not reach me until about the first of June. On unpacking them, I found that the peaches, apricots, and nectarines, were all dead and dried up, while some of the other kinds were

bursting their buds and beginning to grow. I suppose the former were killed by the frost, while in New York, or before reaching there. Those that survived, I planted immediately in my garden—and nearly all have lived, and they grew finely the first summer, (some of the apples blossoming,) and the following winter and spring. Among those now growing thriftily, are the Belle de Choisey and the May Duke cherry; one or two kinds of quinces and plums; and of apples, the R. I. Greening, the Newtown Pippin, the Holland Pippin, the Red, White and Yellow Juneating, the Belleflower, Spitzenburg, and the Northern Spy—this last, (and a favorite of mine it is,) out-strips all the others in its thrifty and rapid growth. Whether these trees will produce their fruit in all the luxurious perfection of their own native soil and clime, or whether their delicious qualities will become deteriorated by being transplanted into this land of burning suns and snowless winters and perpetual verdure, remains for time to determine. A few years will solve the problem.

I never knew how to prize the delicious fruits of my own dear country, until since I have been deprived of them, by a two years' residence in this "Land of the Moor." And many is the time that I would have given a dozen of our best oranges for one of your fine Pippins or Northern Spys, or for a single luscious peach, or a handful of the delicious cherries of Western New York. And but for the luscious fresh figs and delicious grapes of this country, I fear that my hankering after the "fruit pots" of my native country, would have been unappeasable.

But I have spun out my communication to a tedious length, I fear, and I will therefore close. Hoping to meet you in September, at the State Fair in Albany, over a dish of your finest Pippins or Seck-no-furthers, I remain,

Very truly yours, T. H. HYATT.

Tangier, July 4, 1850.

A VISIT TO THE NURSERY OF THORBURN & CO.

BY A SUBSCRIBER, PHILADELPHIA.

As this is now the period when the Dahlias are in all their glory, and being an ardent admirer of this queen of autumn flowers, I determined to pay a visit this season to the well known nursery of Messrs. THORBURN & Co., at Astoria.

On jumping from the steamboat on the pier, at Astoria, the grounds are straight before you, about 200 rods from where you land. The grounds in front of Mr. THORBURN'S house, and lying next the street, are by no means like a nursery, and would not be taken for one by the stranger, who had been visiting the New-York nurseries. No green-houses are to be seen; and on entering by the front gate, you imagine yourself into the grounds of a private gentleman, who had been afflicted with a monomania for Dahlias, and had planted his ornamental grounds full of them, to the exclusion of everything else. Such was the idea which impressed itself on our uncultivated fancy, as we stood in the midst of that splendid collection of Dahlias, without as yet knowing whose ground we stood upon; for we were perfect strangers, both to the grounds and the proprietors of them. But this makes no difference here; all are welcome. On entering by this gate, the walk leads straight up the centre of the ground, until it approaches the mansion of Mr. THORBURN, when it diverges to either side, and leads to the nursery and green-houses. The whole of the ground between the mansion and the street, is occupied with Dahlias,—each side being bounded by fine specimens of the different kinds of Coniferæ and hardwooded trees, from twenty to thirty feet high. This gigantic bed of Dahlias is arranged and named with exquisite taste—

the labels so plain and legible that you may read, as you walk along the path, without treading on the raked ground. Their colours were beautifully blended together, so that the eye rarely met with any violent or offensive contrast; and their heights were so adjusted as to fall gradually towards the walk on each side. Upon the whole, though we are somewhat fastidious in our taste, we must confess that the treat fully equalled our anticipations. We have never seen a mass of Dahlias arranged with so much taste, and displayed to so much advantage; the whole being kept scrupulously neat and clean, and—notwithstanding the unfavorable weather lately—displaying a profusion of blooms. After feasting ourselves on this fine assortment of Dahlias, we turned from the scene, fully satisfied that our own collection was defective, and our culture too.

It would occupy too much of your columns to name all which attracted our notice; but as many of your readers are anxious to know the merits of the newest Dahlias of the season, I will name a few which merit peculiar attention: Sir F. Bathurst, a splendid flower, one of the very best; Queen of the East, very fine; Magnificent, splendid, should be in every collection; Elizabeth, undeniably the finest fancy Dahlia yet grown; Madame Valiere, very fine; Grant Thorburn, form good, excellent habit, altogether a leading Dahlia; Duke of Wellington, below our standard, sometimes comes very good, but we do not think it a constant variety; Gaiety, a very pretty flower, and always good; Grenadier, strong grower and large flower, but somewhat coarse; Beauty of Hastings, a very fine flower; Duchess of Sutherland, fine fancy

white; Highland Chief, a beautiful tipped flower; *Striata perfecta*, a good variety, but we have rarely seen it well grown, being always small, loose, and open in the heart; Keepsake is a superb flower, and Flying Dutchman one of the first fancy Dahlias grown.

Proceeding through the Dahlia grounds towards the house, we passed a group of large Conifers, Acacias, Banksias, and other New-Holland plants; also, in the same group, some very large plants of the *Sieus Rivulata*. In front of the house were arranged some fine rare plants, of different species; but what fixed our attention more than any other in this group, was a Double variegated Pomegranate, with flowers as large as a good sized Camellia, and perfectly double. We had never seen this admirable shrub before, and consider it one of the finest things we ever saw. On showing a single bloom, which we carried with us, to a botanical friend, he thought it was a hollyhock, which at a distance it somewhat resembled. We believe this remarkable shrub came from China; but it is still very rare, for we have not seen it in any collection in this country or elsewhere.

Perhaps Mr. THORBURN would oblige your readers with some account of it; for it certainly deserves to be better known, and more widely distributed.

Turning to the right, you approach the green-houses, passing a small flower garden, appropriated to exotics chiefly. We observed here in great perfection, for the first time, the new *Zauschneria*, a new *Ipomea*, and various other new plants. We cannot omit to notice a plant of the *Dianthus barbatus*—quite a novelty in its way; its beauty exceeded anything of the kind we had seen before. It forms a compact globular truss, very close and double, with massy petals and dark colour. We regard it as a valuable addition to the herbaceous family.

In the green-houses, we found many fine plants, which the length of this renders it impossible for me to mention in detail. Splendid collections of Fuchsias, Geraniums, Camellias, Azaleas, and summer flowering plants in great variety. We were much gratified with our visit to these nurseries, and feel assured that others who may visit them will be the same.

A SUBSCRIBER.

Philadelphia, Sept. 14th, 1850.

VISIT TO MR. RIVERS' NURSERIES, SAWERIDGEWORTH, HERTS.

AMONG the many *commercial* gardening establishments which we have visited on this side of the Atlantic, we have found none more thoroughly interesting in all its details than that of Mr. RIVERS. We lingered nearly two days with Mr. RIVERS, (who, we must be allowed to say, is not only a horticulturist of great ability and experience, but a thoroughly agreeable and cultivated man,) and could not but feel that twenty four-hours spent in carefully investigating the nurseries here, would well repay any of our intelligent young

nurserymen for the trouble and expense of a voyage across the Atlantic.

The distinctive feature of the establishment, as compared with most others in England, is to be found in the improved modes of propagation, culture, and adaptation to the wants of the time, which it exhibits in every department, while, in most of the English nurseries, one notices that a certain routine, often excellent in many respects, is followed, without change, from year to year; here, on the contrary, it is in the highest degree interesting

to see the greatest intelligence and science brought to bear on every side, in order to enlarge the scope of gardening and cheapen the cost of propagation and culture of trees and plants. Instead of catering chiefly for the great proprietors, and keeping up the prices of all new and rare trees, Mr. RIVERS' greatest desire seems to be to introduce and propagate so largely as to afford at very moderate prices, every thing which promises to be an acquisition, either in a useful or ornamental point of view to the gardens of the large middle class of England. Hence the extensive trials of fruits which Mr. RIVERS has made of varieties collected from all parts of the world; hence the system of root-pruning, dwarfing, and pyramidal pruning which he has so successfully introduced. The result of all this has been to bestow on thousands of cottage gardens and the grounds of noble proprietors, to whom wall-fruit is so costly a luxury, an abundant supply of fine fruits upon trees easily cultivated in a limited space.

It is, perhaps, with respect to *fruit trees* that Mr. RIVERS' nurseries are more conspicuously in advance of all others in England. Indeed we do not hesitate to say that we found his grounds considered mainly as an experimental school of *pomology*, more interesting than those of the Horticultural Society of London. Mr. R. has, in addition to his nurseries, planted large quantities of standard and pyramidal fruit trees—especially pears—as orchard fruit for supplying London market. Of the extent of those plantations our readers may judge when we state that we saw, in this part of the establishment, 2300 standard trees of that valuable variety of pear—the Louise Bonne de Jersey alone; and perhaps as many more of each of the following: Bartlett, (William's Bonchretien) Vicar of Winkfield, Capiaumont, and two or three other equally popular and productive market sorts. These trees are planted about 24 feet apart—the intermediate space

partially cropped with young trees, and the pear trees themselves allowed to grow pretty freely in the common standard form. The luxuriance and productiveness of these trees proved to us that the scarcity of standard fruit trees generally in English gardens, is as much owing to a want of knowledge of the sorts best adapted for the purpose, and the proper mode of cultivating them, as to the unsuitableness of the climate—inferior as the latter is to the United States for the culture of most fruit trees.

Besides this kind of orchard planting of fruit trees, Mr. RIVERS has collected, and is constantly collecting and proving, in various parts of his grounds, what he terms "schools of pears," "schools of plums," and all other fruits; that is to say, quarters or plots of ground, where all the new varieties are planted only, labelled, kept distinct, and cultivated till the good or bad qualities have been thoroughly tested. Very few nurserymen ever thought it worth their while to do this until the labors of the London Hort. Society awakened in the minds of fruit growers the folly of growing a poor variety upon a soil that would just as easily produce a good one. Now many nurserymen, both in Europe and America have followed the example, and the advantages, both in point of the genuineness of the sort propagated, and its adaptation to that particular district of country, can scarcely be estimated too highly. Mr. RIVERS' "schools" of experimental trees are, however, unusually rich, and are continually augmented by the introduction of every new sort of repute, which is originated either in Europe or America.

Among the novelties likely to be most valuable in the United States are noticed a new hardy grape—the *Purple Fontainebleau*. We saw a large number of this variety growing in the open air, with all the vigor and luxuriance of our Isabella grape at home, and from the appearance and the account Mr. R. gave of this sort we cannot doubt that it is worthy of

extensive trial in America. The vine is very luxuriant and very hardy—much more so than any foreign grape yet tried in England. The leaves and wood are smooth—the foliage large and of a rich deep green. The branches are large, well formed and shouldered, and are produced in great abundance—even when the vine is simply trained to an upright pole. The berries are between the size of the Burgundy grape* and the Sweet-Water,—oval, dark purple or black, without pulp, sweet and excellent flavor. Though this variety is undoubtedly of French origin, Mr. RIVERS has not been able to find it, at the present time, in France,—the original root from which he has propagated his stock of it existing in an old garden in England into which it was brought from France many years ago, and has remained comparatively unknown. Mr. RIVERS with his characteristic feeling, is propagating it very extensively in the hope of being able to offer it as a perfectly hardy and productive grape for the cottage or gardens of all England. We hope our nurserymen will also introduce and propagate the Purple Fontainebleau, so that it may be fairly tried at home. If it does not prove all that we could wish, in itself, it can scarcely fail to be the best variety to grow along with the Isabella and Catawaba, in order to produce new hybrid sorts entirely adapted to hardy culture, a desideratum at present so greatly sought after in the United States.

Rivers' Early Prolific Plum—a seedling, which originated here, was in full bearing. It is a roundish-oval, purple plum, nearly as large as the Orleans, and is so great and constant a bearer, and ripens so early, that it proves an exceedingly profitable variety. This fruit is just coming into bearing in America, and will no doubt prove equally valuable there. In flavor it is equal to the Early Morocco, while it is far superior to it in productiveness, in the hardness of the tree, as well as in

ripening its fruit earlier in the season. *Reine Claude de Bavay* is considered here one of the most valuable of all the new plums—being not only excellent but very productive. Our best plum—the Jefferson—maintains its high character in England. The most valuable of all the new varieties of grapes for the vinery, according to Mr. R., is a white grape, known as the *Gros Coulard*, or new Sweet-Water. It resembles the Sweet-Water in flavor and color, but is much superior in the size of both the bunches and the berries—so much so that it will probably quite supplant the old sort.

A large plantation of the monthly ever-bearing Raspberry attracted our attention. The young canes were loaded with fruit. The best of all currants Mr. R. holds to be the large bunched Dutch.

A singular mode of growing strawberries in pots for forcing is practiced here with great success, and is the same as that pursued by one of the most celebrated English market gardeners. It consists in growing the plants in pots filled with good soil (say $\frac{3}{4}$ loam $\frac{1}{4}$ rotten dung *pounded down* in the pot quite hard with a mallet.) After the pots of soil are thus made ready, they are placed along side of the beds, when they are just beginning to throw out runners—for example at the commencement of June. The ends of the young runners are fixed on the soil in the pot, where the plants soon strike root and fill the pot with an abundance of roots. It is then removed to the frame or forcing pit and treated as usual. The increased size, vigor and productiveness of the plants and fruit grown in these closely rammed pots, are, we were assured, undeniable. This method is opposed to all the ordinary theory and practice, which depend upon making and keeping the soil loose and mellow. Will our readers speculate upon and explain the new problem in horticulture which it presents?

The Dwarf Prolific Walnut, (Noyer fertile,) a shrub, rather than a tree, bearing good crops

* It is evidently one of the Burgundy class.

of what are called "Madeira nuts" at home and Walnuts here—even when only 6 or 8 feet high, is cultivated here, and would be an acquisition in American fruit gardens.

Thousands of young fruit trees, in the finest health, occupied the nursery quarters—the establishment enjoying a higher reputation than any other in England for fruit trees, and probably doing ten times as much business in this department as any other British nursery.—The American trade is very large, and great quantities of both stocks and approved sorts of fruits as well as Roses, were despatched to the United States last season. Mr. RIVERS' mode of forcing dwarf pyramidal pear trees is already well known to our readers, by his articles in a previous volume. Its two great features are shortening the roots every year or every two years, supplying an abundance of food to them by suitable manures, and stopping the growth of terminal shoots twice in the growing season. There can be no doubt that by this mode the finest pears may be grown in soils, and climates too, unfavorable for standard trees; and that, by this means of forming a highly productive tree, which occupies only a couple of yards square of space, a handsome and valuable collection of fine fruits may be grown in the smallest gardens, viz: those of cities and the suburbs of towns. Small pear trees on quince stocks, 4 to 6 feet high, ready formed as pyramids, and with fruit buds upon them, may now be had from the Sawbridge-worth nurseries. We hope this mode of cultivating pears for sale will be largely practiced by our growers at home. The Angers quince stock which is preferred here to all others as a bottom for pears, is easily distinguished from the common variety by the comparative absence of woolly down on the under side of the foliage, as well as the rounder form of the leaf itself. It is a remarkably free-grower, and (which is a great merit) it is almost as easily propagated from cuttings as the common cur-

rant—while the ordinary quince, as is well known, is very shy of striking root in this manner. The Portugal quince, Mr. R. considers the poorest and least suitable of all as a stock for the pear.

In no feature of his establishment is the spirit of progress more marked than in the numerous cheap glass structures with which it abounds. Every American is struck in England with the exceedingly solid and substantial manner in which almost every building, whether it be a castle or a conservatory, is erected and, as matter of course, with the great sum which such buildings cost. The consequence has been, that forcing houses, for vines and other fruit trees, or glass structures for ornamental purposes, have been almost wholly beyond the reach of all but the wealthy class. Mr. RIVERS has taken quite the opposite course, and looking upon the end to be obtained as the great point to be kept in view, has shown that it may be satisfactorily attained in so cheap a manner as to place the luxury of glass within the reach of every one who can spare one or two hundred dollars. We saw dozens of long glazed structures, the roofs of which were fixed, but wholly glazed, with the front, ends and rear, being only a slight frame of wood like a board fence, all most simply and ingeniously ventilated and warmed—and all at a cost not more than a fifth or an eighth of that usually expended on such buildings in England—while the fruits and plants produced in them were of very superior growth. In many cases the wood is not even planed, and all, even the sash-bars (or rather roof-strips which hold the glass) are sawn of the exact size necessary at the saw-mill, so that a house of this kind may be built by any person who understands the use of a common hand-saw and hammer. These houses are all warmed by a simple brick stove, placed in the centre of the interior—a variation of the Armott stove, invented by Mr. RIVERS—which not

only performs its work admirably but consumes an exceedingly small quantity of fuel. As we brought away some sketches of the construction of this very cheap and simple kind of vinery, fruit, or plant house, we will endeavor to give them, with the necessary diagrams, in our next number, because we are confident that they will be even more generally useful (especially for foreign grapes) in the United States than in England. We may add that we saw in the different structures, fruit trees and vines of all kinds growing, both in borders and in pots, and all in the most admirable state of health and productiveness.

Mr. RIVERS' establishment is famous, on both sides of the Atlantic, for its collection of roses. Hence we saw acres of the finest varieties propagated and ready for sale here. Although the rose season was past, yet the *perpetuals*, which are at all times more or less in bloom, were gay with the finest flowers.—The two sorts which particularly attracted our attention, were *Geante des Batailles* and *Standard of Marengo*. Both these new perpetual roses are superb varieties—the color, of that rich deep crimson which may be described as a dark fiery-red. Some large plots covered wholly with *Geante des Batailles*, profusely covered with blossoms, looked like a rich green carpet embroidered with superb bouquets of dark crimson roses. Both these sorts, and especially the first, are most abundant bloomers in September and October, and will speedily find their way into every garden, being as hardy and as fragrant as a common June rose. Among the freest flowering of the perpetual roses was *Baron Prevost*, a fine rose-colored variety well known in our gardens at home.

Overhanging the road which passes through the nurseries, is a sloping terrace of turf, above or behind which Mr. RIVERS' house stands. This terrace is prettily dotted with rare weeping trees and with standard perpetual roses, gay with flowers at almost all seasons. Among

these, a very striking effect is produced by some grand specimens of standards produced by grafting the Ayrshire and *Sempervirens* roses on gigantic stocks 7 or 8 feet high.—Their branches grow out on all sides with a careless freedom, drooping to the ground like those of the weeping willow, and forming the finest possible *rose-pictures*.

It would be easy to fill pages with accounts of beautiful roses, but, as after all, we should not probably give so accurate and definite an idea of them as our readers would get by examining Mr. RIVERS' Rose Catalogue, we shall not continue our remarks further than to say that we saw thousands of the *Manetti* rose, which is very extensively propagated here as a stock upon which to work the new and rare sorts. It has three great merits: 1st, that it is easily budded; 2nd, that it grows freely from slips, like the common China rose; 3rd, that it rarely, or never, produces suckers. We saw a parent plant of this variety here which has been growing in one place for 8 or 10 years past, and has shown no symptoms of throwing up suckers during the whole time, though the ground has been constantly stirred and dug around it. The *Celine* is another variety also much used as a stock.

We must now jot down a few notes which we made respecting some of the most ornamental and striking hardy trees and shrubs, of which a large but still choice collection is grown for sale here. We shall confine our remarks to those, as yet, scarcely known in the United States, but which from their hardiness and conspicuous beauty in the pleasure grounds or shrubbery, well deserve immediate introduction.

One of the prettiest and most striking small trees for the lawn, is a new Weeping Willow, which has hitherto borne the name in this nursery of the "American Weeping Willow." It is, however, we think, a misnomer, as it came originally from France, and there is no

such species known on this side of the Atlantic. It is far more slender and delicate in growth than the common Weeping Willow (*Salix Babylonica*) though a hardier tree in northern aspects. It is also distinguished by the purplish color of the shoots and the darker green hue of the leaves. The habit, too, is very distinct; if a cutting is stuck into the ground and allowed to take root, it forms a low trailing shrub. When grafted standard high, however, on a straight stem of a species of tree Willow, grown here for the purpose, its branches droop in the most graceful manner, forming a delicate and beautiful round head, with spray falling like a fountain—so much like it, indeed, that we suggested to Mr. R. the propriety of re-christening this *incognita* among Willows, the "Fountain Willow."

Another equally novel and striking lawn tree is the Weeping Purple Beech; its drooping habit quite picturesque, and the color of its very smooth foliage a rich dark purple, calculated to produce an unique effect among the ordinary green tints of the landscape garden. A narrow-leaved Weeping Ash (*Fraxinus lentiscifolia pendula*) struck us as extremely pretty. The Weeping Larch, a most slender and graceful variety, with branches falling like a rain shower. The Weeping Sophora, pretty well known already in American pleasure grounds as one of the most graceful of weeping shrubs, and the Weeping Silver Lime, (*Tilia alba pendula*), a large tree with drooping branches, and foliage of a fine silvery tint on its under surface, are also worthy of the especial attention of those who wish to enrich their lawns with interesting specimens of sylvan beauty.

Among other fine trees which should be better known at home, we were most impressed by the following: A species of Maple called the Purple-leaved Sycamore,* whose leaves and foot-stalks are finely tinged with purple,

which gives it a very pleasing effect in a group of other trees. It is a very hardy and vigorous tree. The Huntington Elm—an English variety, the most rapid growing of all Elms—with very large, broad and handsome foliage, very upright growth, and a remarkably clean, smooth trunk. The variegated leaved Oak, (*Quercus cerris var.*) the foliage finely and distinctly marked, and the Pyramidal Plane tree, a very healthy oriental species, with a finely shaped head. These were, to us, the most interesting among the deciduous trees; as the Deodar Cedar, the Chili Pine, the Douglass Fir, (of all which there is a large stock here,) were among evergreen trees. We should not, however, omit to mention, with especial admiration, a noble evergreen propagated here very extensively, called the Atlas Cedar (*Cedrus argentea*), much hardier than the Cedar of Lebanon, with a beautiful silvery hue in its foliage. The Gold-striped Yew is a gay and novel looking small evergreen tree.

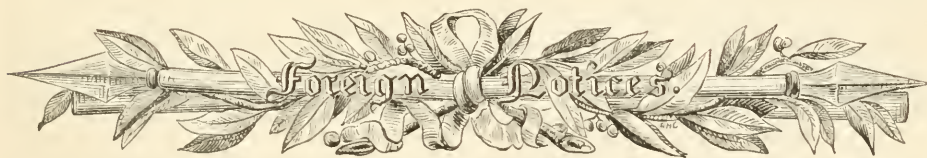
Among other miscellaneous deciduous shrubs we noticed a pretty new Tamarisk tree, (*Tamarix Africana*), from the Atlas mountains, a high and snowy region; hence it will prove quite hardy in the United States, being much more so in Europe than the common German Tamarisk. Its delicate sea-green foliage and graceful slender shoots are very attractive. *Caragana pygmea* is a pretty drooping-headed shrub for the lawn; and *Hedera Regneriana* is a new Ivy with immense leaves, more hardy than the common European Ivy, and therefore likely to prove a valuable addition to our list of climbers in the United States. *Purpureum fruticosum* is a low shrub valuable for its quality of growing close to the sea shore.

The practical nurseryman would find enough to occupy his attention for a long time in the curious and complete system of propagation carried on in this establishment. Not content there, with propagating all the more com-

* The species of Buttonwood, commonly called Sycamore in America, are known as "Plane trees" in England, while a species of broad-leaved Maple (*Acer pseudo-platanus*) are known as Sycamore in the latter country.

mon hardy trees and shrubs in the usual modes, they have adopted quite another plan with new and rare sorts it is desired to multiply as rapidly as possible. An extensive range of low pits with sunken beds or borders, under which warm water pipes circulate, so as to communicate a genial bottom heat, is devoted to a continual system of propagation at all seasons. In these warm beds or borders, pots, containing cuttings, stocks newly grafted, &c., are plunged. As soon as they have "taken," the heat is allowed gradually to decline, or the plants, as soon as potted off, are placed in another pit with less heat—but still enough to stimulate the production of an abundance of new roots to the cuttings. Afterwards the

plant is gradually hardened till it will bear full exposure to the open air. In this way we saw the operations of grafting rare shrubs and evergreens, usually performed only in spring, continued through the whole growing season, and thousands of cuttings, usually struck with difficulty, are made to root with surprising facility in this gentle bottom heat so favorable to the granulation of the organizable matter and the emission of new roots. The completeness of the system was only equalled by its economy in the cheap and admirably arranged structures, which, like every thing else here, bear the stamp of an inventive and scientific mind, combined with the strictest and most practical business system.



SCIENTIFIC NOMENCLATURE.—When one looks through modern Books on Natural History with unprejudiced eyes, it would appear that the great object of some authors was to mystify their readers. There is not a common thought or thing that is spoken of in common English. A hole is a foramen, a stalk a caudicula or a funiculus, a shield an apothecium; and minute anatomy is called histiology. If we go on in this manner, science will have to take rank with quackery, entomologists will sink to the level of chiropodists, and botanists may yield precedence to thermostheirialists and homœopathists.

To avoid these consequences, natural history must address itself more to the feelings and habits of the community. English naturalists must write English, and not indulge in a jargon that can only be paralleled on the stage of a mountebank. Little things dressed up in big words are like the ass in the lion's skin; as soon as they are found out, they become objects of contempt. Let us suppose that a man sets about studying certain modern works which we could point out; that he has mastered endless technicalities, at the expense of much time and trouble; and that having done so, he finds the latter needless, denoting no

thing but what his mother tongue would have denoted quite as well; we are afraid that, in such a case, disgust would get the better of zeal, and that he would be apt to apply to the science and its expounder an epithet of two syllables, which we have no doubt that the ingenuity of our readers will readily suggest.

But we shall be assured that our case is stated in terms stronger and more general than the facts will justify; and that the technicalities of which we complain are necessary, if natural history is to have any precision. Undoubtedly; if this be so, we shall have received a conclusive answer; for no means by which precision can be secured will admit of being neglected, and the inconvenience of adopting these means is nothing in comparison with the advantages to be derived from them. But is this so? Do men, by assigning special and strange names to every trifling modification of structure, attain the end proposed? Is it possible, by means of words, however cunningly devised, to give precision to things which have little precision in their nature? To our mind such exactness as is attainable in natural history is, in the majority of cases, to be secured by plain English as well as by crabbed barbarisms. We be-

lieve "the curvature of a stem" to be an expression as of adoption as the grand word *Stelechorrhypsysia*.

An example or two will illustrate our meaning better than general allusions. In a work just hot from the press, and a good work too, we read that some mollusks are "*zoophagous* ; and these further evidence their *resiliancy* from the *phytivorous* families by the character of their egg-repositories. It is true these cannot well be reduced to any of M. L.'s classes, but they are *concamerated nidi* of a peculiar character." We are not sure that we ourselves understand the learned author's meaning ; but nevertheless we may venture to assert that the words in italics are wholly unnecessary, and that the sentence if put thus would have been more intelligible, without the loss of such precision as it can pretend to. "Some mollusks feed on other animals, and these further show their distinction from the families which feed on plants, by the character of their egg repositories (qu. nests.) It is true these cannot well be reduced to any of M. L.'s classes ; but they are chambered nests of a peculiar character." We see no merit in such words as zoophagous, resiliancy, phytivorous, and concamerated nidi.

Our next illustration exemplifies the style of a popular work on Botany, professing to give English descriptions of plants. "A *glabrous* shrub. Branches *terete*. Leaves *distichous*, on short *petioles*, almost *coriaceous*, *obtus* at the base, *rugose*, *dentate*, with a prominent *costa*. Flowers *secund*. Calyx with *subulate* segments, *saccate* at the base. Corolla *infundibuliform*, *plicate*, *calcarate*, irregular, *ciliated*, with the segments *caudate*. Stamens *exserted*, *heteromorphous*, the *anterior barbate*, the intermediate *arcuate* and *sericeous*, the *posterior complanate*, *clavate*, *fimbriated*, with *setaceous* processes," and so on. If the reader still doubts whether technicality may not after all be the soul of science, as some will have it, let us beg him to compare the foregoing jargon with the following translation of it into plain English: "A smooth shrub. Branches taper. Leaves in two rows on short stalks, almost leathery, blunt at the base, wrinkled, toothed, with a prominent midrib. Flowers all turned to one side. Calyx with awl-shaped segments, bagged at the base. Corolla funnel-shaped, plaited, spurred, irregular, fringed, with the segments extended into tails. Stamens projecting, of different forms ; those in front bearded, in the middle curved and silky, at the back flattened, club-shaped, fringed with bristly processes."

Let us intreat the lovers of hard words to explain in what consisted the necessity of introducing into this description such words as *terete*, *distichous*, *coriaceous*, *rugose*, *dentate*, *costa*, *saccate*, *subulate*, *arcuate*, *barbate*, *complanate*, *heteromorphous*, and so forth. These words are, in truth, Latin and Greek, and it is as absurd for English writers to employ them in translations as

it would be for English people to talk Latin and Greek in conversation.

With such examples as the foregoing, we think it not unreasonable to assert that some most important branches of science are swamped by a technical jargon, unequalled for by any exigency, and alike repulsive to good taste and common sense. That a perseverance in its use is fatal to the progress of natural history, we hold to be indisputable, and we earnestly hope that in future those English writers who undertake the task of public instruction, will endeavor to put their ideas into a language to which reason offers no objection, and by which the little educated may profit, as well as the highly educated ; for thus alone will it be possible to bring natural science within the reach of all classes. *Dr. Lindley, in Gardeners' Chronicle.*

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FORCING STRAWBERRIES.—It is an important point with almost every one who cultivates strawberries, to have them early. Early forced strawberries are highly esteemed ; and though the means of producing them may be but limited, still most people who possess a garden, and a little glass, make an attempt at forcing them. For very early work, the first runners should be secured. These may be pegged down on small 3-inch pots, and, when fully established, removed from the parent plants and re-potted into 6-inch pots, using rich loamy soil. Instead of the common practice of placing these pots behind a wall or hedge, on a north aspect, let them be plunged in the full sunshine up to their rims in coal-ashes or old tan. All runners which are made during the current autumn should be removed on their first appearance, and let the plants be watered once every week with liquid manure. Under such treatment they will have attained a highly matured condition by the approach of winter, and will be capable of producing an early spring crop.

As soon as the growing season is over, the pots should be taken out of the material in which they were plunged, and placed on their sides, to prevent the access of water. In order the more perfectly to effect this end, a quantity of old tan, sand, sawdust, or coal ashes should be provided for stacking them in. A dry situation should be selected for the purpose ; the pots should then be placed upon their sides in two rows, the bottom of the pots facing each other, and the rims placed at the outer edge of the stacking material. The space between the pots should be filled up level with the tops, and another tier of pots added, until the ridge is 3 feet high. To throw off the wet, a covering of straw should be secured on the apex of the ridge. In severe weather the whole ridge may with facility be protected, and this will be the more desirable where a succession of forced strawberries is required, as a portion will require to be put in the forcing-house or pit every fortnight ; and this could not be done, under fa-

vorable circumstances, if the frost is allowed free access to them.

The above practice is only recommended for the earlier crops; for later ones it is not required. One of the largest growers of forced strawberries for the London market never pots the later crops for forcing until they are wanted for that purpose. His success is beyond question; but then old plants are never chosen. Young plants, about a year bedded out, are such as he selects; a great amount of trouble and expense is thus saved. This cultivator has been equally successful in forcing the same plants two seasons consecutively—a practice not generally followed. *Gard. Chronicle*.

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MONSTROUS FLOWERS OF PELARGONIUMS.—The following extract from a paper read by Mr. Sowerby at the Conversazione Meeting of the Royal Botanic Society, in the Regent's Park, describes an interesting case of monstrosity. After pointing out the distinguishing characters of the genera *Geranium* and *Pelargonium*, Mr. Sowerby proceeded to say: "The gardener, as in this case, when he finds nothing but external beauty to recommend a plant, endeavors, by selecting the most perfect, and then cultivating it highly, to increase in the succeeding both the beauty of colour and of form; and as the beauty of form depends on the same elements as that of colour, that is, as before explained, upon the indication of perfect adaptation to the end, or the resemblance of that indication, so a full round form is especially aimed at by the cultivator of flowers, and the *Pelargonium* fancier endeavors to obtain five broad and equal petals, to form a round flower, with the upper two deeply and brilliantly coloured, to produce a contrast to the three lower and light coloured ones; but with all his care the flowers do not come constant, and now and then one will play the truant, and sport as he calls it, and this commonly happens among the most petted or highest cultivated varieties. When the dark colour disappears from the upper petals altogether, and the petals become equal in size and form, it will be observed that the characteristic tubular nectary also disappears. The want of the nectary or honey tube is also accompanied by a regular arrangement of five anther-bearing and five abortive filaments. The white varieties are less liable to this change than those with rose or salmon-coloured petals, and it is also rare among the new fancy varieties; frequently it occurs in the central flower of the truss. In some flowers the nectary is also shortened, and in others a small spot will remain on one petal when the nectary is absent. In the fancy variety called *Yeatmannianum grandiflorum*, which has spots on all the petals, the spots become equal, the two large spots being reduced. An additional petal also accompanies the change in a few cases. One plant of the Beauty of Clapham, a rose-coloured varie-

ty, has almost every flower changed more or less. Thus it appears that cultivation makes one species of plant appear to run into another, and may destroy a remarkable generic character, consisting of the presence of an important organ in the flower, &c. Thus the gardener seems by over-cultivation to reduce his flower to a lower standard, but I do not think this is exactly the case; for though he may apparently reduce a *Cape Pelargonium* to a European *Geranium* in the eye of a botanist, or partly so, still he would have a more truly beautiful flower if he could obtain a full truss of beautiful large rose-coloured or pink flowers; we would recommend a trial of the seed from these sporting flowers." *Magazine of Natural History*.

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EXPOSING GREENHOUSE PLANTS IN SUMMER—Many greenhouse plants, and especially the more delicate kinds, often suffer much injury from exposure to the sun's rays in summer. When so exposed without the benefit of shelter of any kind, the soil is apt to become so thoroughly dried, that it is with difficulty again wetted, and hence the scorched and stunted looking growth which may sometimes be seen on such plants in the summer season. The injury in most cases arises not from exposing the stem and branches of the plants, but from exposing the pot in which it is growing; the sun's rays acting on the sides of the pots, in conjunction with the evaporation constantly going on soon deprives the soil of its moisture; and as all the tender roots are usually more or less in contact with the inner surface of the pot, their injury is inevitable. It is no uncommon thing to see the soil so much dried as to shrink away from the pot, and in this case the roots cannot avoid being more or less injured. Under such circumstances, too, the water which is supplied sinks down as fast as it is poured on, and fails, for a long time at least, to moisten the interior of the soil. Then again, the necessity for constant watering, caused by this exposure, is an evident waste of time. When plants are turned out doors (and also when kept in doors) their roots ought to be sheltered by some means from the influences alluded to; plunging the pot in some open porous material will answer the end as well as anything; and of the substances that may be employed, moss, coal ashes, rough peat, sawdust, or fine charcoal are among the best that can be employed. It is desirable, also, to afford the entire plants a very thin shade during the intense sun heat of summer, but the lighter the material employed the better. *London Hort. Mag.*

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ON THE USE OF COFFEE IN ARABIA AND ABYSSINIA. By M. A. d'Abbadie.—Great nutritive qualities have been attributed to coffee by M. de Gasparin, in his memoir, on the mode of living pursued by Belgian miners; and he quotes, in support of his opinion, the experience of the

French soldiers in Algiers, and of the Arab nations. Without pretending to dispute the accuracy of M. de Gasparin's conclusions, I may be allowed to state that the experience of the Arab tribes is not entirely in his favor. It is well known that the Wahabis, who dissent from Islamism, scrupulously abstain from coffee; and although I have lived with many of this sect, I never found that they were less temperate or less capable of fatigue than their coffee-drinking countrymen. If a proof more convincing than the above is sought, it will be found in Abyssinia, where the Mussulmans, who drink coffee several times a day, support a fast with less ease than the Christians. This has been many times observed by my brother, M. Arnauld d'Abbadie, who commanded soldiers of both religions in the wars of Gojjam. In the disastrous retreats across desert countries, the Mussulmans always suffered more than the Christians. The latter, who think it a crime to drink coffee, will follow the army on foot, heavily laden, for three successive days without any other refreshment than a little earth soaked in cold water. These same soldiers will fight during Lent without other nourishment than a quarter of a pound of unsifted flour, which is often baked in ashes, and without leaven. This flour is less nutritious than that of wheat, and the single meal is often at sunset, after a fatiguing day's march, and a twenty-four hours' fast. The Abyssinians are both less strong and less temperate than the Gallas. The latter, the whole object of whose existence seems to be continual warfare, often pass several days in succession in the deserts which separate them from their enemies. The Gallas then fast for an incredible length of time, which the traveller Bruce explains by their use of coffee boiled with its shell in butter, and seasoned with salt. It is true that the Gallas do use this substance, which will keep a long time, and which I have often tasted with pleasure, but they do not look upon it as an aliment. Before undertaking their military expeditions, they lay in an extra stock of strength by a very substantial and varied repast, taken in absolute rest, in huts at a distance from their women. They then start with a few Chick-peas, which they eat raw, and which they soon finish, fast if necessary for several days together, and afterwards fight with such vigor that their enemies never mention it without some expression of astonishment. It is well known that in Abyssinia, raw meat, whether fat or lean, does not possess the nutritive qualities which have been ascribed to it by M. Magendie in European meat. Whilst staying with the army of Agame, I heard the soldiers, who daily killed some hundreds of oxen, complain that they were losing their strength from exclusively eating raw meat. One of my porters gave up his situation and refused the extra pay which I offered him, because he said that he was losing his strength from the want of

bread and the constant eating of raw flesh. This fact is admitted as true by all Abyssinians, notwithstanding their great liking for uncooked meat. An Abyssinian epicure would despise a meal which did not, partly at least, consist of a good raw lump of cow's flesh, still warm with animal heat and seasoned with pepper. On the other hand, my brother is satisfied, both by observation and by experiment, that, in the same countries, meat dried in the sun restores one's strength much better than raw meat, though not so well as corn. *Comptes Rendus.*

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DESTRUCTION OF WASPS.—The annual sport among the youths of Traquair came to a close on Saturday, the 1st of June. They have bagged less game, and also less money, than usual this year. Let us take a retrospective view of the havoc that has been made among wasps for the last seven years, which will show how anxious the Earl of Traquair is to get rid of this destructive pest in his neighborhood:—In 1844 there were destroyed 244 dozen; in 1845, 1573 dozen, weight 4 lbs. 9½ oz.; in 1846, not a wasp to be found; in 1847, 4 dozen only, weight 4 oz.; in 1848, there were destroyed 1273½ dozen, weight 4 lbs. 7 oz.; in 1849, 865½ dozen, weight 2 lbs. 8 oz.; in 1850, 528½ dozen, weight 1 lb. 11½ oz. Total, 4459½ doz., weight 13 lbs. 8 oz. during the last seven years, or rather five years, as in 1846–47, only four dozens were taken; these dozens will make the number of wasps to be 53,514—a good round number certainly in a circuit of three miles. Now, if all, or even one-half, of the proprietors in the country would use the same means to exterminate these insects, a wasp would soon be as rare a sight as a red deer on the hills around us. *Edinburgh Evening Courant.*

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PRESERVATION OF GREEN KIDNEY BEANS.—The following is the process employed by M. Gehen de Montigny, for the preservation of green Kidney Beans. In fine weather gather the pods, before the seeds are too visible, take the threads off, plunge the pods in boiling water, and take them out again immediately; let them cool, put them in a tub in layers five inches deep, alternating with vine leaves, which must begin and end the series; on the top of the last layer of vine leaves, put a stone, heavy enough to keep the whole well pressed. Then pour in some salt water until the top is covered; replace the water as it evaporates. The Beans can thus be preserved quite fresh. *Flore des Serres.*

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JAPAN LILIES.—Few plants of recent introduction are more handsome or attractive than the Japan Lilies. They come into bloom at a time when the great majority of our New-Holland plants are over, and when an actual paucity of flowering plants exist, wherewith to decorate the conservatory and green-house, and what really

can be more suitable? They produce a gorgeous display either in-doors or out; and as they are quite hardy they may be liberally planted in the open border, and thus constitute one of our best autumnal flower garden plants.

Their propagation is simple and certain. The bulbs may be separated, and each scale will eventually form a new bulb. This separation should be effected when the flower stems are withered; the scales should be stuck into pans of silver sand, and placed in a cold frame or pit. After remaining one season in this position, they should be planted in a prepared bed of peat soil, and a little silver sand intermixed with it; thus treated the bulbs will soon grow large enough to flower.

The cultivation of them in pots is by no means difficult. I shall detail the practice I have pursued with success for some years. Immediately when the bulbs go to rest in the autumn is the proper time to repot them. By no means destroy the old roots, but carefully place them amongst the fresh soil. If large examples for particular display are required, large pots may be employed, and half a dozen large flowering bulbs placed in each pot. The soil I use is rough peat. The pots should be well drained, and the crown of the bulb just covered with the soil; when potted they should be placed in a cold pit or frame, in order to prevent the soil from freezing, although frost will not injure the bulb. Where room under glass is an object in winter, they may be plunged in the open air in coal ashes, in a manner similar to potted Hyacinths. I have at this time a large number coming into flower, which have never been under glass until within these few days; they have sustained no injury from exposure, and they present every appearance of making a grand display. There is scarcely any plant which is so much benefitted by liquid manure as the Lily, more especially before expanding its flowers. If used in a clear state, and considerably diluted, this water alone may be applied for at least a month before it comes into flower.

If the object should be out-door cultivation entirely, I should recommend them to be planted in beds; their effect is exceedingly grand. Excavate the soil 18 inches deep, and fill in the bottom a foot deep with very coarse peat, intermixed with one-fifth of decayed manure or leaf mould. The remaining 6 inches may be entirely peat. If the bulbs are large enough to bloom, plant them 12 inches apart every way, and if beds of each kind are brought into contact with one another, the effect will be magnificent.

The following are the kinds I cultivate: *Lilium lancifolium album*, *L. punctatum*, and *L. speciosum*. The old Japonicum is also well worth growing. *Dr. Lindley, in Gard. Chronicle.*

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HOUSE-BUGS AND ANTS.—Your columns have recommended the getting rid of bugs, and certain-

ly extreme cleanliness alone will effect this desirable purpose; besides this, in some warm countries it is a common practice to destroy these noisome insects by pouring quite boiling water on the parts of furniture infested with them. In this way a first operation may not always be sufficient, but it is easily repeated until all the insects and their eggs are destroyed. Furniture and places the most infested with them may be speedily cleared by solutions of either corrosive sublimate, or of sulphate of copper. Corrosive sublimate leaves no stain after its application, and therefore would be to be preferred, were it not extremely poisonous, and its use is the more dangerous as its solution is colourless. Sulphate of copper is also a poison, but only when taken in considerable quantity; it has been employed with the most complete success for washing old walls, ceilings, floors, and furniture swarming with bugs. The mode in which it was used was to put a few ounces of sulphate of copper into a basin, pouring upon it soft water, stirring the whole occasionally until the whole solution became saturated; a small quantity of the sulphate remaining undissolved indicates that the solution is saturated. Has corrosive sublimate in solution been tried for the destruction of ants in dwelling houses? A strong lessive from wood ashes was some years ago resorted to to get rid of a small species of this insect, and was found to dislodge them from the apartment they had invaded. In the south of France oil of Juniper berries, called in the patois of the country *huile de caée* is frequently used in granaries to protect the corn in them from ants. For this purpose the oil is sprinkled on bare parts of the granary floor, but occasional renewals of the oil are requisite. It is also often mixed with the earth in preparing the *aire* on which corn is threshed, and in houses ants have been dislodged by *huile de cade* being put in the crevices of floors, and at their junction with the walls. *Id.*

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DOUBLE FLOWERS.—The day is not yet so far distant when our scientific botanists were experiencing something like fever heat, from witnessing the growing partiality for these truly beautiful, though to them hateful, monstrosities—a fever only secondary in its evils to the nightmare antipathy with which they viewed the labors of the hybridising florist, who, in the extreme number as well as diversified forms of the varieties he introduced, seemed to make havoc of nomenclature, and ride rough-shod through all their nicely drawn-up specific distinctions and definitions. Even they, however, our learned instructors—for though they were not free from prejudices any more than other men, we must not forget the debt we owe them—even they can now join the florist in expatiating upon, and defining the merits of, a beautiful hybrid; and, what is more, can mingle with the vulgar throng and behold a peculiar beauty in these double monstrosities, altoget-

ther apart from the means which such flowers present for building up a peculiar phytological theory.

I confess that in the case of many plants, such for instance as the Chinese Hibiscus, the single perfect flower is to my eye far more beautiful than the double varieties; but beautiful and lovely though many even of our common plants be in their single state—such as the daisy, when slowly rolling back its pale crimson hood-like covering as the sun's rays reach it in the morning—I conceive that few, with a correct taste for the beautiful, would think of contrasting for a moment the single and the double in such plants as daisies, primroses, violets, ranunculuses, pinks, carnations, roses, stocks, wall-flowers, Sweet Williams, rockets, balsams, fever-few, catch-fly, &c.; plants which, though generally found in their highest perfection in the garden of the amateur and cottager, will never disgrace the parterre of the nobleman.

Our attention has been directed to this subject by the inquiries of a lady correspondent, as to how such flowers are at first produced. "Is it from richness of soil, as in the stock? I know that double flowers may be perpetuated by impregnation, but want to know how to get one double in the first instance." Now our difficulty here consists in the fact, that our own mind is not quite made up on the subject, though we incline to our friend's supposition, that double flowers are chiefly produced by cultivation, and, in addition, that they are perpetuated by the same means; and although aware that they may be perpetuated by impregnation, we consider that even that holds a rather secondary place to careful cultivation. Glancing, however, at one or two fallacies may lead the investigations of our friends, who have time at their command, into a channel whence more consistent and legitimate deductions may proceed.

That our correspondent is not alone in her opinion, that double flowers are perpetuated by cross fecundation, may be seen in the circumstance of saving a single flowering stock for seed that has been surrounded by double ones; the practitioners believing that the contiguity of the double flowers will influence the single ones, and thus so far affect the seeds formed that they will produce plants with double flowers. Now, in examining the matter, it will at once be found that the double state in flowers is generally produced by the stamens, and the pistils, the male and female organs, and also at times what are termed floral leaves, &c., being all changed into petals; and the more completely this has been done, the more perfect the specimen appears as a double flower. But the more effectually this was accomplished, the more unlikely would such double flowers be to exercise any influence whatever upon the properties of the seed produced from single flowers in their vicinity. If these double flowers contained

any perfect stamens, the fertilising pollen of these stamens might be transferred to the summit of the pistil of the single flowers, and thus the properties of the double flowers might be imparted to the seeds so fecundated. Thus, in saving seed from semi-double flowers, or even from flowers containing a greater number of petals than usual, there is a greater probability of obtaining double flowers in future than from plants with perfectly single flowers, as a predisposing cause in the first case has already been in action. Whether this double flowering condition be the result of disease or merely of a full plethoric habit, superinduced by high cultivation, is a question that will not at all affect the above proposition. But, if no such influence in the shape of male organs existed in the double flowers, then their neighborhood to the single ones could exercise no power whatever upon the qualities of the seed that would naturally be produced. Future culture will determine whether the plants from such a seed shall be puny or luxuriant, but that culture for the first season will have little or no influence as to the plant possessing double or single flowers; these are qualities which would be chiefly lodged in the seed while yet remaining in the seed-vessel of the nurse-parent. What, then, are some of the principles by which we ought to be guided, when our object is to obtain and preserve double flowers?

Making allowance for exceptions, the following may be adduced as leading general propositions:

First. To obtain double flowers from seed, dependence must not be placed upon the influence of a stray stamen that was not converted into a petal or flower leaf, but means must be taken to make the seeds possessed of a property which otherwise they would not possess, by superinducing a highly elaborated, full, plethoric habit, in the seeds. This can only be done by stimulating the plant with high cultivation at a certain period—after the flower-buds appear—and then by removing the greater portion of the seeds. If the stimulus is applied at an earlier period, the plant will increase greatly in luxuriance; by giving it thus later, a greater degree of strength is conveyed to the flowers; by thinning these flowers, or the seed vessels, as soon as formed, so as to have only a very few seeds to ripen, these, in consequence, acquire a full plethoric habit; and we know that in the vegetable and animal world alike, this state is opposed to productive fruitfulness, while in the deplethoric state it is encouraged. From a full double flower, therefore, we expect and obtain no seeds. From such plants as balsams, which, though said to be double, yet produce seeds, the rendering of them more double must be obtained by the high cultivating and seed thinning process. In their case, as well as some others, compactness of growth and clearness of colour seem to be gained by preserving the seed for several years; the fresher a seed, the sooner will it vegetate, and the stronger and more luxu-

riant the plant. In double composite flowers, such as the Dahlia, which consist of a number of florets upon a common receptacle, though the most of these florets may have their parts of fructification changed into petals, others may be unchanged, though they remain unnoticed until the petals fall off; and from these, when seeds are produced, more double flowers may be expected than from seeds saved from more single varieties, because possessing a greater constitutional tendency in that direction. This will more especially be the result when, as in the other cases, high cultivation is resorted to whenever the seed appears. Thus something like superfecundation is induced in the seed, which leads it afterwards, when sown, to develop itself more in leaves and petals (which the botanists tell us are the same thing,) instead of flowers producing seed; and this altogether independent of the culture it receives for that season. When any of our friends, therefore, look somewhat disconsolate on their beds of stocks nearly all single, they may rest next to assured that the culture they imparted had little or nothing to do with it. The seeds they sowed would have been single in any circumstance. The matter is different in the perennial plants, such as the daisy and the primrose. Without resorting to seeds at all, the plant from being divided, having its soil frequently changed and stimulated by rich compost, will often gradually change from the single into the double flowering condition, upon exactly the same principles; luxuriance and fruitfulness being ever opposed to each other. Several years ago we carried out these ideas with considerable success, and such as they are, now commend them to the notice of our friends who have more time at their command.

Secondly. On much the same principle, care should be taken to preserve double flowers, when propagating them by cuttings, runners, and divisions of the root,—by giving them the same careful cultivation, otherwise they are apt to return to the primitive single state. To secure this object effectually, two considerations should be attended to. If a rich stimulating system of cultivation is at the first resorted to, there will be the likelihood of having a luxuriant development of stem and leaves, at the expense of depriving the flowers of their requisite proportions. In all free-growing luxuriant plants, it will be wise policy not to over stimulate the plant until the bloom appears; and the increased nourishment judiciously given will then enlarge the size of the flower, while the rest of the plant would continue to maintain a comparative dwarf and stubby character. In choosing seed when it is produced, let it be selected from such plants. Then, again, if the size of the flower is to be maintained, and prevented degenerating into its primitive condition, rich composts should not only be used, but fresh soil, if possible, given to them every year.

Now is a good time to propagate all these pretty desirables, at least all that are of a comparative hardy nature. Many of them, when the flower stems are decayed, may be divided at the root; such as the Rocket, which with the Wall-flower and Sweet William, Lychnias, &c., will strike by small cuttings in light soil under a hand-light, under the same treatment as is resorted to with Pinks. In the case of using hard stems of Rock-ets and Wall-flowers, &c., it is advisable, after cutting through with a sharp knife at a joint, to run the knife upwards a short distance, through the centre of the cutting, and then to make a similar incision at right angles with the first, so that the base of the cutting shall consist of four equal divisions. This exposes a greater portion of the inner bark, and roots in consequence are more quickly and plentifully produced. *Cottage Gardener.*

FRUIT-PACKING.—A little advice on this subject may prove of some interest, both to the young gardener, the amateur, and the cottager; it being often imperfectly understood, or too carelessly practised.

In former days our fruits travelled by coaches, or by the ordinary road-waggon, but now principally by steam; and it is to modes of packing adapted to that kind of transit that we would now invite attention. By the former mode of travelling, the box or basket was subjected to a loose jolting action; by the latter, it undergoes a perpetual jarring; and although the action of the steam-carriage is by far more uniform than that of the old coach, yet these little jars, unless provided against, by good packing, are very damaging to tender fruits, or those with a thin skin and a soft pulp.

The kinds of material to pack in are the first consideration; and here we may observe, that whatever the kind be, it is, as we think, absolutely essential, that it be of an elastic character, and at the same time possess a kind of strength or soundness which, after travelling many miles and enduring many hard knocks, shall yet preserve its elasticity somewhat unimpaired. Thus, as an example, fine grass from lawns which have been mowed several times, or some from beneath the shade of trees, in a dry state, is a very tempting-looking material, and looks soft as silk; but for general purposes the second cut from upland mowing will be found far preferable, as longer preserving its elasticity.

Closeness, not to say tightness, in packing is the great essential; the one great maxim to bear in mind is this, *PRESSURE IS BETTER THAN FRICTION*. We well remember calling on an old schoolfellow, about twelve or fifteen years since, to advise with him as to the best mode of packing peaches; for at that period we grew the finest peaches in England; for a few years we had the honor of beating all competitors or nearly so, our fruit at that period averaging as much as 11 ounces, and sometimes nearly reaching 13. The schoolfellow allud-

ed to was the late Mr. David Dulley, who kept the large fruit-shop in Covent Garden, formerly occupied by the late Mrs. Grange. The axiom about "pressure, &c." was, he assured me, the best advice in few words that could be given; and we have for many years had ample opportunity of proving the truth of Mr. Dulley's advice.

His opinion was, as to material, that few things excelled soft hay, or, as the Londoners term it, "rowen;" such being for the most part the second cut or aftermath from grass lands of a somewhat finer character than ordinary. Nevertheless, he did not confine all fruit-packing to this material alone, but merely pointed to it as at least a useful adjunct in *all* fruit-packing.

At the same period we called at Gunter's in order to get their opinion; there we were told, that sawdust or bran were capital materials for peach-packing; the former from white and flavourless wood, such as the lime, horse chestnut, &c., &c. The soundness of the last advice has always appeared questionable, especially as to railroad travelling; the sudden and severe jerks on which would seem to require that some body of a more yielding character should be placed around the fruit.

Some persons are very partial to the use of cotton, wool, or "wadding;" some to dry and thrashed moss; others use paper shavings from the stationers; the latter being for the most part the edgings removed from writing paper during the squaring or finishing process we suppose. These paper shavings are, indeed, a truly good article, and perhaps are better for grape packing than any other material.

Having thus "broken the ice," as far as first principles are concerned, we must now beg to be a little more explicit, and to come home at once to the details; we must crave our readers' patience whilst we pack three ideal boxes of strawberries, grapes, and peaches.

STRAWBERRIES.—Having provided a shallow box or tin of three inches in depth, clear inside measure, we will place, at least, one inch of dry thrashed green moss over the bottom; moss, from which, after thrashing, all dirt and dust have been completely ejected. This must be pressed as close as hands can make it; indeed, made firm and equal. And, now, let a piece of fine and soft cap-paper be placed double, and perfectly even, for a bed for the strawberries. One of the best strawberry-packers we ever knew used to place a layer of nettle leaves (which had been gathered two or three days and become very pliant) over the cap-paper; and exceedingly well it answered. These things done, let the same mode of packing, reversed, proceed, until the box is quite full; so that the topping-up will be a facsimile of the bottoming, only, as before observed, reversed. And now we may fairly nail down or close the lid, and rest assured that they will travel well—from the Land's End to London.

GRAPES.—We must now change our tactics, for

we shall of course require both a deeper box and a stronger material; the latter partly on account of the much increased weight, and consequently pressure. Grapes pack best, as we think, in a sort of diagonal position—not quite flat, but nearly so; of course the stock end in the ascendant. The box being ready, and sufficiently roomy—four inches deeper than the bunch when in its recumbent position—two inches at least of the white paper shavings may be placed in the bottom, tucking them somewhat close, but not tight. If any of the paper remains in masses, as cut from the quires, it must be separated into individual strips. The best way now, in our opinion, is to surround each bunch as they are placed in the box with silver or tissue paper; this must be placed gently, and somewhat loosely, round the bunch, avoiding carefully all friction; and now a little extra paper shavings may be so placed as to form a sort of nest for the bunch, and this so managed, as that when the bunch with its paper is laid down there will be no occasion to move or to handle it again. As they are thus successively placed, a little paper must be introduced here and there as a wedge, or prop, to prevent the bunch from slipping.

When the bunches are very large, or possess huge shoulders, some little pillows or cushions may be introduced between them and the body of the bunch; occasionally these may be formed by enclosing small portions of the paper shavings in the silver paper, thrusting such in any situation where a great weight of berries are likely to infringe on each other. The bunches being all thus placed, some more of the little cushions may be thrust here and there over the general surface, so placing them as to render it impossible for the bunch to move in any direction. The surface being thus brought level, nothing remains but to fill up the box with the paper shavings, taking care that it is quite full, so that the lid in fastening down will have to be compressed a little. The thrashed moss may, if necessary, be substituted for the paper shavings; we are not aware which is best, but confess to a partiality for the shavings; such, however, must not be coarse—the finer the better, and from thin white paper.

PEACHES.—For these, we think, the soft or rowen hay not to be excelled. We have repeatedly sent the large peaches before named to the Chiswick exhibitions, with scarcely a blemish; and as such were much admired by the public, and on one occasion their packing made the subject of a leading article in the *Chronicle*. We cannot do better than detail the precise mode of doing so on those occasions.

The boxes were made exactly eight inches in depth; this allowed two inches of the packing material below the fruits, and two inches, or nearly so, above; thus, four inches at least were allowed for the thickness of the peach. Our boxes were partitioned-off into cells, measuring about five inches square on the surface; one, of course, apportioned

to each peach. In the bottom of each of these was placed the two inches of rowan hay, pressed close, and shaped in a concave manner, so as to form a nest for the peach to descend into. Some squares of silver paper and cap paper were now provided; and first taking a square of cap paper in the left hand, another of silver was placed in it; the right hand then quietly placed the peach on the centre of the paper in the palm of the left hand, and now the right hand was employed to gently twist the four corners together. Thus imbedded the peach was lowered into its cell, and so on with the whole. The next proceeding was to take a long bladed knife—one of the ordinary dinner knives—and with this to tuck in the soft hay in a wedge-like character, until each sell was full, *close, but not hard*. Of course the top of the box received the two inches of rowan; and the box lid was obliged to be slightly compressed in nailing down, the hay being applied rather liberally.

Now, we do not mean to say that these are the only rules for fruit packing—fruit of a tender character we mean; but we do mean to say that they travelled well by these modes; and a hope may perhaps be indulged in, that our detail of the proceedings may assist in furnishing useful ideas on the subject of fruit packing amongst the uninitiated, for whom, in a great degree, it is our duty to write. It may be observed, in conclusion, that such things are not always confined to single layers; many of our country gentlemen or noblemen who have extensive gardens and forcing establishments have tin cases adapted to the reception of several layers; of course the packing of each layer is commensurate to the same system—each layer is complete in itself.

As opportunities occur, we shall feel it a duty to return to the subject, and must then descend to easy modes of packing our common fruits. *Cot. Gardener.*

POULTRY.—Brood after brood succeed each other with great rapidity until the yard appears alive, so numerous are its inhabitants. By far the safest plan when chickens are hatched is to keep the hen under coop for the first three weeks; this prevents her dragging her young brood over the wet grass, which occasions cramp and many other diseases to which young poultry of all sorts are liable. Rearing poultry requires a good deal of patience and attention, at least, to be a successful rearer of it; and what can be more disheartening, “in a small way,” than to find the young things dying off! which is always the case unless trouble is taken with them. “If a thing is worth doing at all, it is worth doing well,” is certainly true concerning poultry rearing. The great secret is to feed them often, and a little at a time. The old nurse’s saying of “children and chickens

are always picking,” is a very true one as regards at least, the latter; for if you carefully watch a brood of young chickens you will observe that they are always scratching about and picking up something—it may be a seed, or an insect, or a worm. Thus, nature points out the proper management; for, of course, if the hen is under a coop she cannot obtain food for them, and therefore it must be placed within their reach at various times during the day.

Ducks I have always found more difficult to rear than chickens; for they are very greedy, and often eat so much that they become suffocated. They stray along ways from their mother (if she be confined) in search of their favorite food, which is slugs; they are therefore very desirable assistants to the gardener, and as they do not scratch up the earth they are most useful, particularly in a flower garden. In moderation nature’s food must be beneficial to them, but then they should not be fed to the same extent as when unable to cater for themselves. Boiled potatoes, damaged rice, and barley meal are all equally good for young poultry of all sorts. Ducks are particularly calculated for the poor man to keep, if he lives near a pond or ditch; for they require very little feeding, and are contented with the refuse of any vegetables. Cabbage boiled, chopped up, and mixed with the skins of potatoes, they will eat greedily; young nettles also, if boiled and mashed up, they like much. *Ib.*

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CREOSOTE A PRESERVER OF WOOD FROM SEAWORMS.—Some time ago one of your correspondents requested information as to the means of preserving wood from the ravages of sea-worms. It is not generally known that some experiments made last century in Plymouth Sound pointed out that timber when paid with cheap oils remained intact, though other pieces of it sunk in the same place were much worm-eaten. Oil of tar was, 40 years ago, recommended for paying timber intended for a work in the same Sound, and latterly creosote, or oil of tar, has become of very general use for the protection and preservation of wood in bridges, railway sleepers, &c. Creosote is the cheapest of all oils, but for some purposes its application is objectionable, since it renders wood so highly inflammable that insurance offices refuse to insure any works impregnated with it, and its noisome and long-enduring smell render its use improper in various instances, such as in structures for horticultural purposes, for example. Where the latter disadvantage may be considered as prohibiting the use of creosote, cheap oils free from smell, as whale oil, would probably be equally effectual in preserving wood from seaworms. *Gard. Chronicle.*



THE CURCULIO.—SUCCESSFUL EXPERIMENT WITH WHITEWASH.—I wish to communicate a single fact in relation to the curculio—that pest of the plum-grower. The ravages of this insect have been the past season more than usually destructive of the smooth stone fruits in this neighborhood. We usually escape without suffering much from his depredations.

Of the plum trees in my garden, all of which are young, three only set fruit the last spring. These three were in June well covered with young fruit. As the fruit attained about half an inch diameter, the presence of the curculio was clearly indicated by the falling of the fruit, and the peculiar crescent puncture upon many plums still on the trees. Two of the three trees stand in an unfrequented part of the garden; the other, near the house by a wall, where it is passed by every half hour, or oftener, in the day. Having seen the use of whitewash recommended, I procured some for the experiment, and syringed thoroughly one of the trees—fruit, leaves and all—with the whitewash. From this time, it was evident that the enemy had withdrawn from this tree. No further attention was given to any of the trees to prevent the work of the curculio. The result is, that of the two trees standing in the part of the garden least frequented, the one whitewashed matured a heavy crop of beautiful plums; the other lost every plum—not one remaining beyond about the middle of July. The tree near the house matured a fine crop of fruit, though much less than the one syringed.

This experiment, although by no means warranting the conclusion that whitewash will prove an unfailing remedy for the curculio, seems to offer encouragement sufficient to justify its further use, with the hope that it may enable us to defeat in part, at least, his mischievous effects. Very truly yours, *C. P. Williams. Albany, September 12th, 1850.*

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BARKED TREES.—In the Horticulturist for September, p. 149, your correspondent, Mr. LAWTON, relates a singular instance of two apple trees being divested of their bark, for at least forty inches up the stems; the surface thus exposed being hard and dry, yet the trees are loaded with

fruit of the finest size, and the trees of the most healthy appearance. He asks if such cases are frequent, what supports the life of the tree, and how is nourishment conveyed to the branches? The facts stated by Mr. LAWTON, are a very striking illustration of the power possessed by exogenous trees, of changing their functions, in cases of emergency, and propelling their fluids by different channels from those in which they naturally flow. In ordinary circumstances, the sap of exogens ascends through the albumum (the newest layer of wood,) and descends through the liber, (or inner coating of bark,) both of which, in the case alluded to, were entirely destroyed. The sap, therefore, on reaching the denuded portion of the stem, must have taken a lateral communication through the wood, then assumed its longitudinal course until it reached the top of the annulation, when it again diverged from its channel into the albumum.

This is nothing more than a case of “ringing,” though rather a severe one. When this operation is practiced upon a tree, its effect is to diverge the ascending sap into the stratum of wood beneath the annulated part; but when it has passed by, it again returns into its accustomed channel. Whether the quantity of fluid be diminished, by being thus diverted from its course, I am unable to say, though I have no doubt there is a considerable loss by evaporation from the denuded part, which accounts for the check given to branches of trees on which this operation is performed.

A tree can no more bud, blossom, bear fruit and ripen it, during a season without food, than a human being could perform daily labor for the same time without sustenance. Neither plants nor animals have the power of creating that which did not previously exist. They are, therefore, entirely dependent upon surrounding supplies, for the matter wherewith to maintain and enlarge their structures. It cannot be supposed that the stored-up sap of the tree could alone produce the summer shoots, the flowers, and the fruit; for we know that the supply must be equal to the quantity drawn up the leaves; otherwise the ducts would be emptied, just as a lamp becomes empty by the drawing up of the fluid by the wick, ex-

actly as is the case with trees depending solely upon the stored-up sap of a tree will—especially in moist weather—produce leaves, and young shoots of some length; but it never produces flowers and ripens fruit. If the trees here spoken of, therefore, were not nourished in the manner here described, physiology points out no other method by which nourishment could be supplied to them.

Such cases as those alluded to by your correspondent, are by no means uncommon, and may frequently be found in open lands and neglected orchards, where cattle are allowed to run at large; but I have never seen an instance in which the tree was not permanently injured, when damaged to such an extent, and seldom will they produce perfect fruit. Cases to the contrary may exist; but they are exceptions to the rule. The alburnum of a tree is the most sensitive portion of the whole structure, and cannot be injured to any great extent, without producing sensible injury. The alburnum may be said to contain the life blood of the tree, and should never be injured by the operation of ringing; as by taking away the bark and liber, the end will be gained. The functions of a tree may be suddenly suspended without injury to the blossoms or fruit; but if the alburnum be destroyed, the fruit of the same season will drop off, or be otherwise worthless.

I am aware that trees have been found to live for some time after the bark, the liber, and the whole of the sap wood had been taken away, in a lateral ring. Fortuitous circumstances may preserve the tree for a short time under such conditions, but it soon dies. On the other hand, trees have lived for hundreds of years, when the interior layers of wood were rotten. In fact, our forests supply innumerable instances of trees existing for centuries with nothing but the bark, the liber, and a few external layers of young wood, which decays invariably as fast as it is made by the annual depositions. Respectfully yours, *R. B. Leachars.* September 14th, 1850.

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OSWEGO HORT. SOCIETY.—I send you herewith a paper, containing the proceedings of the Oswego Horticultural Society, at the September exhibition in this city. The display of flowers was exceedingly fine,—the floral department comprising everything "rich and rare." Vegetables, abundant and choice, from the Lima bean to a red cabbage; the "City Garden" of Alderman Oliver furnishing the substantial in abundance. The contributions to the fruit department comprised, say a hundred varieties, *new* in this region. Planters are just beginning to gather from large plantations, commenced here in 1845, and continued to the present day. Although the season has been unfavorable, the show of peaches was magnificent in profusion and variety. The Large Early York (not serrate,) from Mr. Worden's grounds, taking the first premium. The display of pears from the nursery grounds of Messrs. Al-

len & Kline, and S. Worden, together with large contributions from private gardens, show the degree of interest and success in the cultivation of this delicious fruit. Among other choice things, the tables were graced, for the first time, with the *nectarine*. There were large donations of perfectly mature grapes, grown without extra care. Among these, preeminent were the *Isabella* and *Sweet-Water*. We want the *Diana* to crown the whole. At the close of the exhibition, all articles not removed were sold. Amount realised from sales and at the door, \$75. Income of the society this year, over and above premiums and contingent expenses, not short of \$300. Yours, &c. *J. M. Casey, Rec. Sec'y. Oswego,* September 19, 1850.

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BURR'S NEW PINE STRAWBERRY.—In your September number, Mr. J. BURR makes an effort to relieve himself from the responsibility of sending me spurious strawberry plants for the *Burr's New Pine*, by shifting it on Mr. SITES, the person to whom he had sold his "place, some two months previous" to the receipt of my order, which seems to call for some notice from me. I should have been glad if he could have made a more satisfactory apology. I know nothing of Mr. SITES; he may be a very honest and correct man; there is nothing in Mr. BURR's showing to the contrary. It is hardly likely that the plants would become confused in the short space of two months in the winter. His effort, therefore, to shove me off on to another party with whom I have never corresponded on the subject, can avail him nothing. He should have sent the order back to me with the \$10, or asked me if I wished him to hand it over to his successor. I was very particular in stating to him the reason for sending it, which was to avoid committing mistakes in supplying my eastern correspondents; as I had some fears that my own stock had become mixed. I have refunded to the parties to whom I sent the spurious plants the money received,—it being the best redress I could make them. This Mr. B. has not felt it his business to do; but thinks it all sufficient to make an effort to rid himself from the responsibility. I could have done so with as much plausibility. Very respectfully yours, *A. H. Ernst. Spring Gardens, Cincinnati,* September 6th, 1850.

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THE NEW-YORK STATE FAIR.—The exhibition of the New-York State Agricultural Society took place at Albany on the 3d, 4th, 5th, and 6th of September. It was another grand display of the industrial products of the people of this great state, and was witnessed with delight by a vast multitude of people, gathered chiefly from this and the New-England states, though many were present from other states of the Union, from the Canadas, from Nova Scotia and New-Brunswick, and several from various foreign countries. The number of people was considerably greater than

at any previous show, as is shown by the receipts, being upwards of two thousand dollars more.

The general display was fully equal to any former one; indeed, with one or two exceptions, the departments were better filled than they have ever been on any previous occasion. In the horticultural department, the show was highly creditable. Considering that it was held at an earlier time than heretofore, the display of apples and pears was much better than was anticipated. There were no large collections of fruits from states, as at Buffalo and Syracuse; but with the exception of peaches, we think the show of fruits has not been surpassed in any previous year.

The collections of fruits by H. Vail, Troy, Dr. Wendell, Albany, Elwanger & Barry, Rochester, Jona. Battey, Keeseville, Wilson, Thorburn & Teller, Albany, were large and fine; and the less extensive but choice collections of Messrs. Prentice, Rathbone, Denniston, Dorr, Dr. March, Goold, Cary, and others, of Albany, Menand of Watervliet, and Pratt of Greenbush, made a good appearance, and were entitled to much credit.

The principal contributor to this part of the exhibition, from out the state, was R. L. Colt, Esq., of Paterson, N. J., whose collection received great praise. His specimens of foreign grapes, of several varieties, were uncommonly fine. Dr. J. M. Ward, of New-Jersey, also sent several excellent specimens of peaches and other fruits, which were worthy of special notice.

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HOW TO GROW MELONS.—MR. DOWNING—I had the pleasure of eating some very fine muskmelons at Cottage Lawn, the seat of THOMAS W. LUDLOW, Esq., and he kindly gave me the following account of his method of treating them, which is so much less expensive and more simple than the usual manner of protecting the young plants with hand glasses, (which require a small fortune devoted to them alone,) that I think it may be useful to some of your readers:

After the young plants have been "started" in a frame, they are set out in the melon patch, and each one is enclosed by four common bricks, laid flat on the broadside; and the space at the top is covered over with a pane of ordinary window glass. This enclosure remains until the plant reaches the glass, when the bricks are turned up on one side, and the glass replaced. By the time they have grown up to this "roof," they are strong enough to do without protection, and the season so far advanced that frost is not feared. The fruit, resulting from this treatment, was uncommonly fine and large, and the vines very healthy and strong. The seeds may be sown at once in the melon-bed, if more convenient, and enclosed with the brick and glass. Very truly yours, *A Reader*.

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INQUIRY ABOUT VINERIES.—In the number of the *Horticulturist* for Jan'y, 1850, page 343, a

Philadelphia Subscriber impliedly promised to let your readers know the cost of a vinery, which he was erecting, on the plan of the Clinton Point Vinery, though on a smaller scale. I believe that gentleman has forgotten his promise; at any rate, I have not noticed its fulfilment. If he will be pleased to send to you a particular description of his grapery, with its cost—the depth and extent of his border; and especially, if a drawing of it could be furnished, it would be very useful to many gentlemen who are contemplating to erect vineries in *New-England*.

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NOTICES OF GREEN-HOUSES.—While sojourning among my friends in this city, I have for my own pleasure, as well as the satisfaction of others, called at several plant establishments, with a view to ascertain the truth of the reports made in the *Horticulturist* regarding the progress of plant culture in this vicinity. Among those worthy of introducing to notice, the Messrs. HOGGS share the first rank. Their grounds were clean, plants healthy, and houses well stocked. I saw, of flowering in their collection, the new and beautiful *Lilium Testaceum*, introduced from Japan in 1842, and *Combretum Purpureum*, very showy—the *Drymonia Punctata* and *Franeisia Violacea* were also very pretty. There were several fine seedlings and named *Gloxinias* in flower. There was another new and rare plant I ought not to overlook, hoping it will ere long be found in every amateur's collection—it is a large and showy species of *Penstemon* from Texas, of which he possessed but a single specimen.

MR. NIBLO'S vineries were also in tolerable order, but while I agree with your correspondent "M. C." that a fair representation of Horticultural establishments will greatly influence its interests, I must also say that exaggerating their real merit will have an equally bad effect. I am constrained to make these remarks in consequence of the unlimited praises your correspondent "VITIS" heaps upon this place. (I saw this and other places mentioned in this letter last June, about the time your correspondent "VITIS" writes.) The three span-roofed houses, "VITIS" so much eulogises, run parallel, north and south. They bore a tolerable crop, allowing for the many disadvantages to which your correspondent says they were subjected. They were making good wood, but were much affected with mildew. I don't mention these facts to invalidate the well known reputation of Mr. GALBRAITH—on the contrary, his superior skill is evidently proved in the 5th or lean-to house, with a south aspect. The vines and fruit in this house were such as would do honor to ROBERTS of England, or ALLEN of Massachusetts; but when a man is over-powered with business, something is sure to suffer. I did not see the conservatory. The out-ground was mantled with weeds, and seemingly altogether forgotten. This, no doubt, was owing to Mr. NIB-

Lo's protracted illness, and pressure of city business.

Messrs. THORBURN, near Astoria, so often mentioned by your correspondents, also hold a prominent position. His large specimen plants were all out—two in particular—the Weeping Pine of New Zealand, about 12 feet high, with graceful drooping branches, and a large double flowering Pomogranate, attracted my attention. The houses were undergoing an arrangement for the summer, and, like the Messrs HOGGS, such as were completed bore evident testimony to the fact that an embargo is not put upon our green-house doors, as some of your correspondents would have it. The delicacy and beauty of the Fuchsias and Geraniums then in bloom, would inspire the most obdurate with a love for their cultivation. *Gladiolus hirsutus roseus* was also pretty. *Verbena*, Robinson's defiance, made a great show; and a large plant of the Caledonian or Scotch Thistle, and double white Canterbury Bells were peculiarly striking. The Dahlias, of which their young stock seemed inexhaustible, were then promising well.

Mr. WOOLSEY's garden, near Astoria, is extensive and well kept. The Glass comprises one range divided in seven parts, of which, four are vineries, two pine stores, with a large plant conservatory in the centre. This latter was near divested of its former occupants, and left a skeleton exposed to the summer sun. The vines bore evidence of good management. They were well grown and had excellent crops of fruit in various stages of succession. The Pine Apple plants were small and clean, yet they were of a sickly yellowish hue, this, I presume, is chiefly owing to a full exposure to the summer's sun, having neither canvass nor paint to protect them.

Mr. E. WOOLSEY's place is also neatly kept, but his gardener having denied me the courtesy of showing me through, I can give no particulars of it.

Mr. HOYT's, near Astoria, is another of those places to which I would gladly call the attention of those that wish to see good practical business. The specimen plants here are superb. The green-houses were well stocked and full of bloom. The vineries might be looked to, at a future period, for the effects of special manure. There is one 93 feet long by 16 feet wide, but for the convenience of forcing, &c., is divided into two parts, and heated by smoke flues. The width of the border outside is 18 feet, thoroughly prepared, 2 feet 9 inches deep. The inside border, which runs the width of the house, is also trenched this depth. The outside border is all paved, with a principal drain in front, to carry away any superfluous moisture. The gardener kindly informed me that in preparing this border, he used, in addition to stable manure, 50 bushels of bones, chiefly in the outside. The vines were planted twelve months last spring, and were, at the time of my visit, making monstrous growth. There are two other

vineries, but time did not permit me taking any particular notes on them. The whole establishment was in excellent order, and does much credit to the skillful gardener. *Fidelius*. New York, Sept., 1850.

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NOTES ON FRUITS OF THE SEASON—PEARS.—

The Bloodgood, when at maturity, this season, has proved to be a more valuable fruit with us, than in any former year. Still it was not equal to the Madeleine and ripens two weeks later. The Dearborn's Seedling maintains its high character for fine flavor, but it does not surpass the Zoar Beauty, and is one-third less in size. The latter we must place in our list of number ones. The Moyamensing is now mature, and promises to sustain its reputation as a valuable fruit. Our markets are at this time supplied with the Windsor or Summer Belle, which, though one of the most saleable of fruits, is worthless and not worthy of cultivation. The same remark is applicable to the English Jargonelle. The Musk Robert or Quince stocks is superior in size, flavor, time of maturing to the same kinds raised on standard trees. Still, it cannot be considered of much value. The Belle of Brussels, in Mr. Elliott's grounds has, this season, equalled its highest recommendations. With us, it once attained to that standard, but in subsequent years proved so poor that we discarded it. The Rostiezer is ripening with us; but its small size will operate unfavorably to it, however valuable its other qualities may prove. The Tyson is decidedly the finest flavored pear we have tasted this season. In size, color and form it bears some resemblance to the Zoar Beauty—in flavor it excels; and we must place it among the No. ones.

APPLES.—Bevan's Favorite, though a spiey and rather high flavored apple, is too hard and dry in its texture to be considered a first rate table fruit, yet its fine appearance and durability will always ensure it a ready sale in market. It cooks tolerably tender, though not equal to the Summer Rose and Red Astrachan. A variety is cultivated in this vicinity under the name of Rambour Frane and Benoni; which of the two names is correct is not decided. Its qualities fall far short of those given to the Benoni by Coles & Downing, and it ripens too early to agree with the time named for the maturing of the Rambour Frane, by Cox. It is not worthy of cultivation. Summer Pearmain, is ripening at this time in a high state of perfection, and is entirely exempt from cracking, which sometimes impairs its value. Early Joe, to our taste, is one of the finest eating apples with which we have ever met. Every orchard and even a small garden should contain at least one tree for family use. As a market fruit it is of no value. William's Favorite and Red Quarrenden have not attained to their usual high standard this season, owing to the trees being denuded of their leaves by red-legged locusts. Os-

lin is too tart and crisp for our taste. It cooks tolerably well. The Gravenstein is now in a very good condition for cooking, and we find all other kinds rejected from the kitchen as soon as it is introduced. It is considered an autumn apple and does not become a good fruit for eating till September; but by the 20th of August it is valuable for pies and tarts. It is entitled to a place among the most select varieties. The Golden Sweeting, cultivated on an extensive scale, might be made profitable for advancing the condition of the farmer's stock of swine before his crop of corn has matured, and at a season when his supplies of feed are rather limited. This apple and clover pasture promote their growth, as well as grain, and at a much cheaper rate. It is a free grower, and very productive every year.

PEACHES.—The Early Tillotson and Early Ann, are now coming into maturity. The former would be valuable if the trees were not affected with a kind of blight which impairs the growth and vigor. The latter is not prolific, and cannot be considered worthy of cultivation.

In favorable localities, the Yellow and Red Rarripe is also beginning to ripen. This variety will repay the cultivator for the labor and care that he bestows upon it, and must be considered as the best of our very early peaches. Three seedlings from it were exhibited, on the tables of Cleveland Horticultural Society, on Saturday last, that were in some respects superior to the original kind. Mr. Haughton also exhibited, at the same time and place, some very fine peaches, that resembled in every particular the variety formerly cultivated in this vicinity as the Early York, except in their time of ripening. If they should prove to be a new variety, ripening a week earlier than the original kind, they will be a valuable acquisition.

PLUMS.—We have already alluded, in the columns of the Family Visitor, to the decay or rot of the plum. It has again appeared in our orchard, and is destroying, with a few exceptions, all varieties. We had hoped that special manuring and high feeding of the trees might prevent its occurrence, but our expectations have been defeated. It has, this season, attacked every variety without regard to the soil or exposure. Trees freely supplied with bones, ashes and manure, have escaped no better than those that have

been left entirely to themselves. Free applications of salt about the roots, repeated every six months, apparently protected the fruit from attacks of the curculio. At least, the ravages of that insect have been confined, almost exclusively, to fruits on trees that were not treated with salt. No means that we have yet devised has availed anything, as a remedy, against attacks of the rot. Among the varieties that have matured with us, we would mention the Lawrence; nothing in the line of plums can exceed its excellence. The Bingham is also a delicious fruit. Drap d'Or is a profuse bearer—early and excellent for pies, but not of much value for eating. The variety disseminated in this vicinity as the Royal Russian, is probably spurious, and proves to be near akin to Bolmar's Washington, if not identical. Dennison's Superb equals the description in the books. *P. Kittland, in Family Visitor.*

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KENTUCKY HORTICULTURAL SOCIETY.—There was a very fine display of grapes, peaches, and plums upon the society's tables to-day, and we were pleased to see that they had no lack of admirers, and those too of the right sort—admirers ready to encourage the grower of good fruits by that most substantial of persuasives, liberal prices. This, we think, will abundantly appear by reference to extracts from the sales, at auction, which, as usual, took place at noon to-day.

Among the contributors, we were pleased to notice the name of our old friend, Mr. Hugoni, who had a very handsome lot of Golden Chasselas grapes. We noticed also some very fine peaches, without name, from Bishop Smith, of Jefferson county, which we understand weighed twelve ounces a piece. There were also several very clever contributions of vegetables, among which we noticed a bean, new in this market, which is greatly praised. The only thing we saw to regret on the occasion was the fact that the number of contributors was no greater. Our friend from Jefferson county, L. Young, Esq., contributed largely to the display, and among his peaches (some eight or ten varieties in number,) we noticed several that were very fine, particularly the Orange free and the Catharine. Among his plums we were struck with Cooper's Red, as being very perfect, large, and well ripened. *Louisville Journal.*

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ONE of the most complete and salutary reforms ever, perhaps, made in any country, is the temperance reform of the last fifteen years in the United States. Everybody, familiar with our manners and customs fifteen or twenty years ago, very well knows that though our people were never positively intemperate, yet ardent spirits were, at that time, in almost as constant daily use, both in public and private life, as tea and coffee are now; while, at the present moment, they are seldom or never offered as a means of civility or refreshment—at least in the older states. The result of this higher civilization or temperance, as one may please to call it, is that a large amount of vice and crime have disappeared from amidst the laboring classes, while the physical as well as moral condition of those who labor too little to be able to bear intoxicating drinks, is very much improved.

We have taken this consolatory glance at this great and salutary reform of the habits of a whole country, because we need something to fortify our faith in the possibility of new reforms; for our countrymen have, within the last ten years, discovered a new poison, which is used wholesale, both in public and private, all over the country, till the national health and constitution are absolutely impaired by it.

“A national poison? Do you mean slavery, socialism, abolition, mormonism?” Nothing of the sort. “Then, perhaps, tobacco, patent medicines, or coffee?” Worse than these. It is a foe more insidious than these; for, at least, one very well knows what one is about when he takes copious draughts of such things. Whatever his own convictions may be, he knows that some of his fellow creatures consider them deleterious.

But the national poison is not thought dangerous. Far from it. On the contrary, it is made almost synonymous with domestic comfort. Old and young, rich and poor, drink it in with avidity, and without shame. The most tender and delicate women and children are fondest of it, and become so accustomed to it, that they gradually abandon the delights of bright sunshine and the pure air of heaven, to take it in large draughts. What matter if their cheeks become as pale as the ghosts of Ossian; if their spirits forsake them, and they become listless and languid! Are they not well housed and *comfortable*? Are not their lives virtuous, and their affairs prosperous? Alas, yes! But they are not the less guilty of poisoning themselves daily, though perhaps unconscious of it all the time.

The national poison that we allude to, is nothing less than the vitiated air of *close*

stoves, and the unventilated apartments which accompany them!

"STOVES"—exclaim a thousand readers in the same breath—"stoves poisonous? Nonsense! They are perfectly healthy, as well as the most economical, convenient, labor-saving, useful and indispensable things in the world. Besides, are they not real Yankee inventions? In what country but this is there such an endless variety of stoves—cooking stoves, hall stoves, parlor stoves, air-tight stoves, cylinders, salamanders, etc.? Why, it is absolutely the national invention—this stove—the most useful result of universal Yankee ingenuity."

We grant it all, good friends and readers; but must also have our opinion—our calmly considered and carefully matured opinion—which is nothing more nor less than this, that stoves—as now used—are the national curse; the secret poisoners of that blessed air, bestowed by kind Providence as an elixir of life,—giving us new vigor and fresh energy at every inspiration; and we, ungrateful beings, as if the pure breath of heaven were not fit for us, we reject it, and breathe instead—what?—the air which passes over a surface of hot iron, and becomes loaded with all the vapor of arsenic and sulphur, which that metal, highly heated, constantly gives off!

If in the heart of large cities—where there is a large population crowded together, with scanty means of subsistence—one saw a few persons driven by necessity into warming their small apartments by little close stoves of iron, liable to be heated red-hot, and thereby to absolutely destroy the purity of the air, one would not be so much astonished at the result, because it is so difficult to preserve the poorest class from suffering, in some way or other, in great cities. But it is by no means only in the houses of those who have slender means of subsistence that this is the case. It is safe to say that nine-tenths of all

the houses in the northern states, whether belonging to rich or poor, are entirely unventilated, and heated at the present moment by close stoves!

It is absolutely a matter of *preference* on the part of thousands, with whom the trifling difference between one mode of heating and another is of no account. Even in the midst of the country, where there is still wood in abundance, the farmer will sell that wood and buy coal, so that he may have a little *demon*—alias a black, cheerless, close stove—in the place of that genuine hospitable, wholesome *friend* and comforter, an open wood fire-place.

And in order not to leave one unconverted soul in the wilderness, the stove inventors have lately brought out "a new article," for forest countries, where coal is not to be had either for love or barter—an "air-tight stove for burning wood." The seductive, convenient, monstrous thing! "It consumes one-fifth of the fuel which was needed by the open chimney—is so neat and clean, makes no dust, and gives no trouble." All quite true, dear considerate housewife—all quite true; but that very stove causes your husband to pay twice its savings to the family doctor before two winters are past, and gives you thrice as much trouble in nursing the sick in your family as you formerly spent in taking care of the fire in your chimney corner,—besides depriving you of the most delightful of all household occupations.

Our countrymen generally have a vast deal of national pride, and national sensitiveness, and we honor them for it. It is the warp and woof, out of which the stuff of national improvement is woven. When a nation becomes quite indifferent as to what it has done, or can do, then there is nothing left but for its prophets to utter lamentations over it.

Now there is a curious but indisputable fact, (somebody *must* say it,) touching our

present condition and appearance, as a nation of men, women and children, in which we Americans compare most unfavorably with the people of Europe, and especially with those of northern Europe—England and France, for example. It is neither in religion or morality, law or liberty. In these great essentials every American feels that his country is the birthplace of a larger number of robust and healthy souls than any other. But in the bodily condition, the *signs of physical health*, and all that constitutes the outward aspect of the men and women of the United States, our countrymen, and especially countrywomen, compare most unfavorably with all but the absolutely starving classes on the other side of the Atlantic. So completely is this the fact, that though we are unconscious of it at home, the first thing (especially of late years) which strikes an American, returning from abroad, is the pale and sickly countenances of his friends, acquaintances, and almost every one he meets in the streets of large towns,—every other man looking as if he had lately recovered from a fit of illness. The men look so pale, and the women so delicate, that his eye, accustomed to the higher hues of health, and the more vigorous physical condition of transatlantic men and women, scarcely credits the assertion of old acquaintances, when they assure him that they were “never better in their lives.”

With this sort of impression weighing disagreeably on our mind, on returning from Europe lately, we fancied it worth our while to plunge 200 or 300 miles into the interior of the state of New-York. It would be pleasant, we thought, to see not only the rich forest scenery opened by the new railroad to Lake Erie, but also, (for we felt confident they were there,) some good, hearty, fresh looking lads and lasses among the farmers’ sons and daughters.

We were for the most part disappointed. Certainly the men, especially the young men, who live mostly in the open air, are healthy

and robust. But the daughters of the farmers—they are as delicate and pale as lilies of the valley, or fine ladies of the Fifth Avenue. If one catches a glimpse of a rose in their cheeks, it is the pale rose of the hot-house, and not the fresh glow of the garden damask. Alas, we soon discovered the reason. They, too, live for seven months of the year in unventilated rooms, heated by close stoves! The fire-places are closed up, and ruddy complexions have vanished with them. Occasionally, indeed, one meets with an exception; some bright eyed, young, rustic Hebe, whose rosy cheeks and round, elastic figure would make you believe that the world has not all grown “delicate;” and if you inquire, you will learn probably that she is one of those whose natural spirits force them out continually in the open air, so that she has as yet in that way escaped any considerable doses of the national poison.

Now that we are fairly afloat on this dangerous sea, we must unburthen our heart sufficiently to say that neither in England nor France does one meet with so much beauty—certainly not, so far as charming eyes and expressive faces go towards constituting beauty—as in America. But alas, on the other hand, as compared with the elastic figures and healthful frames abroad, American beauty is as evanescent as a dissolving view, contrasted with a real and living landscape. What is with us a sweet dream, from sixteen to twenty-five, is there a permanent reality till forty-five or fifty.

We should think it might be a matter of *climate*, were it not that we saw, as the most common thing, even finer complexions in France—yes, in the heart of Paris, and especially among the peasantry, who are almost wholly in the open air—than in England.

And what, then, is the mystery of fine physical health, which is so much better understood in the old world than the new?

The first transatlantic secret of health, is a much longer time passed daily in the open air by all classes of people; the second, the better modes of heating and ventilating the rooms in which they live.

Regular daily exercise in the open air, both as a duty and a pleasure, is something looked upon in a very different light on the two different sides of the Atlantic. On this side of the water, if a person—say a professional man, or a merchant—is seen regularly devoting a certain portion of the day to exercise, and the preservation of his bodily powers, he is looked upon as a valetudinarian,—an invalid, who is *obliged* to take care of himself, poor soul! and his friends daily meet him with sympathising looks, hoping he “feels better,” etc. As for ladies, unless there is some *object* in taking a walk, they look upon it as the most stupid and unmeaning thing in the world.

On the other side of the water, a person who should neglect the pleasure of breathing the free air for a couple of hours daily, or should shun the duty of exercise, is suspected of slight lunacy; and ladies who should prefer continually to devote their leisure to the solace of luxurious cushions, rather than an exhilarating ride or walk, are thought a little *tête montée*. What, in short, is looked upon as a virtue there, is only regarded as a matter of fancy here. Hence, an American generally shivers, in an air that is only grateful and bracing to an Englishman, and looks blue, in Paris, in weather when the Parisians sit with the case-ment windows of their saloons wide open. Yet it is, undoubtedly, all a matter of habit; and we Yankees, (we mean those of us not forced to “rough it,”) with the toughest natural constitutions in the world, nurse ourselves, as a people, into the least robust and most susceptible *physiques* in existence.

So much for the habit of exercise in the open air. Now let us look at our mode of

warming and ventilating our dwellings; for it is here that the national poison is engendered, and here that the ghostly expression is begotten.

However healthy a person may be, he can neither *look* healthy, nor remain in sound health long, if he is in the habit of breathing impure air. As sound health depends upon *pure blood*, and there can be no pure blood in one's veins if it is not re-purified continually by the action of fresh air upon it, through the agency of the lungs (the whole purpose of breathing, being to purify and vitalize the blood,) it follows, that if a nation of people *will*, from choice, live in badly ventilated rooms, full of impure air, they must become pale and sallow in complexions. It may not largely affect the health of the *men*, who are more or less called into the open air by their avocations, but the health of women, (*ergo* the constitutions of children,) and all those who are confined to rooms or offices heated in this way, must gradually give way under the influence of the poison. Hence, the delicacy of thousands and tens of thousands of the sex in America.*

“And how can you satisfy me,” asks some blind lover of stoves, “that the air of a room heated by a close stove is deleterious.?” Very easily indeed, if you will listen to a few words of reason.

It is well established that a healthy man must have about a pint of air at a breath; that he breathes above a thousand times in an hour; and that, as a matter beyond dispute, he requires about *fifty-seven hogsheads* of air in twenty-four hours.

Besides this, it is equally well settled, that as common air consists of a mixture of two gases, one healthy (oxygen,) and the other unhealthy (nitrogen,) the air we have once

* We have said that the present generation of stove-reared farmer's daughters are pale and delicate in appearance. We may add, that the most healthy and blooming looking American women are those of certain families where exercise, and fresh air, and ventilation, are matters of conscience and duty here as in Europe.

breathed, having, by passing through the lungs, been deprived of most of the healthful gas, is little less than unmixed poison (nitrogen.)

Now, a room, warmed by an open fire-place or grate, is necessarily more or less ventilated, by the very process of combustion going on; because, as a good deal of the air of the room goes up the chimney, besides the smoke and vapor of the fire, a corresponding amount of fresh air comes in at the windows and door crevices to supply its place. The room, in other words, is tolerably well supplied with fresh air for breathing.

But let us take the case of a room heated by a close stove. The chimney is stopped up, to begin with. The room is shut up. The windows are made pretty tight to keep out the cold; and as there is very little air carried out of the room by the stove-pipe, (the stove is perhaps on the air-tight principle,—that is, it requires the minimum amount of air,) there is little fresh air coming in through the crevices to supply any vacuum. Suppose the room holds 300 hogsheads of air. If a single person requires 57 hogsheads of fresh air per day, it would last four persons but about twenty-four hours, and the stove would require half as much more. But, as a man renders noxious as much again air as he expires from his lungs, it actually happens that in four or five hours all the air in this room has been either breathed over, or is so mixed with the impure air which has been breathed over, that it is all thoroughly poisoned, and unfit for *healthful* respiration. A person with his senses unblunted, has only to go into an ordinary unventilated room, heated by a stove, to perceive at once, by the effect on the lungs, how dead, stifled, and destitute of all elasticity the air is.

And this is the air which four-fifths of our countrymen and countrywomen breathe in their homes,—not from necessity, but from choice!

This is the air which those who travel by hundreds of thousands in our railroad cars, closed up in winter, and heated with close stoves, breathe for hours—or often entire days.*

This is the air which fills the cabins of closely packed steamboats, always heated by large stoves, and only half ventilated; the air breathed by countless numbers—both waking or sleeping.

This is the air—no, this is even salubrious compared with the air—that is breathed by hundreds and thousands in almost all our crowded lecture-rooms, concert-rooms, public halls, and private assemblies, all over the country. They are nearly all heated by stoves or furnaces, with very imperfect ventilation, or no ventilation at all.

Is it too much to call it the national poison, this continual atmosphere of close stoves, which, whether travelling or at home, we Americans are content to breathe, as if it were the air of Paradise?

We very well know that we have a great many readers who abominate stoves, and whose houses are warmed and ventilated in an excellent manner. But they constitute no appreciable fraction of the vast portion of our countrymen who love stoves—fill their houses with them—are ignorant of their evils, and think ventilation and fresh air physiological chimeras, which may be left to the speculations of doctors and learned men.

And so every other face that one meets in America, has a ghostly paleness about it, that would make a European stare.†

What is to be done? “Americans will have

* Why the ingenuity of clever Yankees has not been directed to warming railroad cars (by means of steam conveyed through metal tubes, running under the floor, and connected with flexible coupling pipes,) we cannot well understand. It would be at once cheaper than the present mode, (since waste steam could be used,) and far more wholesome. Railroad cars have, it is true, ventilators at the top for the escape of foul air, but no apertures in the floor for the inlet of fresh air! It is like emptying a barrel without a vent.

† We ought not, perhaps, to include the Germans and Russians. They also love stoves, and the poison of bad air indoors, and therefore have not the look of health of other European nations, though they live far more in the open air than we do.

stoves." They suit the country, especially the new country; they are cheap, labor-saving, clean. If the more enlightened and better informed throw them aside, the great bulk of the people will not. Stoves are, we are told, in short, essentially democratic and national.

We answer, let us *ventilate our rooms*, and learn to live more in the open air. If our countrymen will take poison in, with every breath which they inhale in their houses and all their public gatherings, let them *dilute it* largely, and they may escape from a part at least of the evils of taking it in such strong doses.

We have not space here to show in detail the best modes of ventilating now in use. But they may be found described in several works, especially devoted to the subject, published lately. In our volume on COUNTRY HOUSES, we have briefly shown, not only the principles of warming rooms, but the most

simple and complete modes of ventilation,—from Arnott's chimney valve, which may for a small cost be easily placed in the chimney flue of any room, to Emerson's more complete apparatus, by which the largest apartments, or every room in the largest house, may be warmed and ventilated at the same time, in the most complete and satisfactory manner.

We assure our readers that we are the more in earnest upon this subject, because they are so apathetic. As they would shake a man about falling into that state of delightful numbness which precedes freezing to death, all the more vigorously in proportion to his own indifference and unconsciousness to his sad state, so we are the more emphatic in what we have said, because we see the national poison begins to work, and the nation is insensible.

Pale countrymen and countrywomen, rouse yourselves! Consider that God has given us an atmosphere of pure, salubrious, health-giving air, 45 miles high, and—*ventilate your houses*.

ON THE PROPAGATION OF CONE-BEARING EVERGREEN TREES.

BY M. COURTIN, OF BORDEAUX.

DURING the last few years, Coniferæ have become somewhat popular among gardeners and amateurs, and it will, doubtless, be interesting to give a short description of the mode of propagating some of the more ornamental kinds, especially those which are often grown in pots or tubs, as ornamental objects for the conservatory or the terrace garden.

The modes of propagation here described, are those practiced by an experienced gardener who has been for a long time exclusively occupied in the culture of this beautiful tribe of plants. It is well known among practical men, especially by propagators, that Coniferæ are not readily reared from cuttings, and that other means, such as the different processes of grafting, are much more successfully employed. It is not the less true that different species of Coniferæ require to be grafted by different methods. Many species can-

not be propagated by cuttings at all, owing, no doubt, to their resinous nature. Those who cultivate Coniferæ, and desire to propagate them extensively, should keep at hand a number of the stocks best suited to the different species. The following sorts are recommended for this purpose:—*Araucaria imbricata*; the different species of *Pinus*; *Thuja orientalis*, and *occidentalis*; *Juniperus virginiana*; *Podocarpus elongatus*; *Taxus*; *Cupressus*; *Taxodium distichum*; and *Dacrydium spicatum*, or *Podocarpus spicatus*.

What is called side-grafting, is the mode most successfully adopted with many kinds that are required to be quickly grown into strong and vigorous plants. The best time for performing the operation, is in the months of March and August. The stocks used ought not to be stronger than a common quill. Worsted or woollen thread is found to be the

best tying material that can be used. As soon as the plants are grafted, they must be placed near the glass of a propagating house, in an inclined position, so as to impede the circulation of the sap to the top of the stock, and to facilitate the adhesion of the graft. The management must be the same as that given to grafted plants in general; but care should be taken not to allow them to become too moist. They must also be frequently cleaned, and the stock must not be cut down before the graft has grown somewhat strong and vigorous.

The best time for taking cuttings is towards the latter part of the summer, and it is necessary to select them from the young shoots that have grown the same year: they should be cut close to the old wood. The cuttings should be planted in pots of silver sand, and kept in a warm green-house or propagating house, and covered with a bell glass or a hand light. Those persons who have not the convenience of a house in which to place cuttings, may avail themselves of the mode of propagating called layering. For this purpose, when the young shoots have become sufficiently strong, it will be necessary to erect an artificial stage around the plant which it is desired to propagate. On this stage, pots of suitable soil must be fastened, by being tied to the boards, and in the position best adapted for the operation. The branches must then be gently bent over the pot, and properly secured in their place; the young shoots inserted in the soil of the pot, and secured with a small peg. This is the most successful mode of propagating such kinds as *Pinus longifolius*, *P. palustris*, and *P. Hartwegii*, which have a spongy bark.

Grafting upon *roots* has been found very successful with the different species of *Thuja* and *Juniperus*. This mode is performed as follows:—In February or March, the small roots of *Juniperus virginiana*, and *Thuja orientalis* or *occidentalis*, are taken off: they must not be stronger than the scion or shoot, which should be selected from last year's wood, near the summit of the plant. When the grafts are made, the roots must be potted in small pots and placed on a shelf in the green-house, being kept close, and shaded until established.

As regards the most suitable stocks for *Conifere*, it may be observed that they are most successfully raised from seed. It is not

advisable to take young plants from a collection for this purpose; because they do not accommodate themselves to pot culture so well as plants obtained from seeds. Good healthy seeds of the species named at the beginning of this article, should be procured for the purpose of raising plants to be kept as stocks. Such plants will be found most suitable for those engaged in the propagation of *Coniferae*. The seeds should be sown in February, in wooden boxes of convenient size, and three or four inches in depth. The soil most suitable for sowing them in is sandy peat, mixed with a fourth part of loam. The boxes should be well drained, and, after the seeds are sown, placed in a temperate green-house. As soon as the seedlings appear, the boxes must be removed near the glass, in order to give the plants plenty of light. Before the first leaves appear, the young plants should be taken out and potted in two-inch pots, using a sandy peat soil, but no loam. This treatment is preferable to allowing the young plants to grow large in the box, and then shifting them into pots; as, when they are taken out of the box very young, with only one or two roots, they are less liable to be injured, and they soon adapt themselves to their new situation. When the seedlings have been potted, they should be removed to a cool frame, and placed on a bed of ashes or gravel, but quite near the glass. They will require to be shaded during bright sunny weather, and care must be taken never to allow them to become either too dry or too wet. The frame may be kept rather close till the end of May, or the beginning of June, according to the state of the weather, when the lights may be taken off. As soon as very rainy and frosty weather sets in, the lights must be put on again, to remain on all the winter. Very little shelter will be necessary except during severe frosts. Air must be admitted to the plants on all favorable occasions. In spring, they will require to be shifted into four-inch pots, and if properly attended to, they will be ready to graft upon by the autumn.

Seeds of *Taxus*, *Thuja*, and *Juniperus virginiana*, may be sown in the open ground, and pricked into pots three or four months before they are wanted to work on. They may be removed to a shelf in a temperate moist stove, to remain for some time, the better to establish them in the pots.

NOTES ON DECORATIVE GARDENING—FOUNTAINS.

BY H. NOEL HUMPHREYS, ESQ.*

THE most highly wrought effects produced in garden architecture have been those effected by means of fountains; of this, the well-known gardenesque water-works of Versailles and St. Cloud are sufficient evidence.

Sir Uvedale Price says:—"With respect to fountains and statues, as they are among the most refined of all garden ornaments, so are they the most liable to be introduced with impropriety. The effect, however, (especially that of water mixed with sculpture,) is of the most brilliant kind." Some have asserted, that fountains are unnatural; but natural *jets d'eau*, though rare, do exist, and are among the most surprising exhibitions of nature, which, in Iceland, and other volcanic regions, have struck the traveller with wonder.

But though we find natural fountains in the wildest scenes of nature, it is not, however, necessary, in making artistic use of a natural law that produces a *jet d'eau*, to surround the artificial jet with the circumstances that surround it in nature, any more than it is necessary that the architect, in building with stone, should imitate in his work the rude form of the quarry from which it was taken. On the contrary, as fountains produce the best effect near buildings, and in combination with statuary, architects and sculptors, like Bernini, says Sir U. Price, would not think of inquiring what were the precise forms of natural water-spouts; but knowing that water forced into the air must necessarily assume a great variety of beautiful effects, which, added to its native clearness and brilliancy, would admirably accord with the forms and colours of statues and architecture, would use it accordingly.

Nature and art are more closely allied than appears at a first glance; for all art is founded upon the development of some natural law, which Shakespeare perceived when he makes Polixenes, in the "Winter's Tale," say,

"This is an art
Which does mend nature—change it rather; but
The art is nature's self."

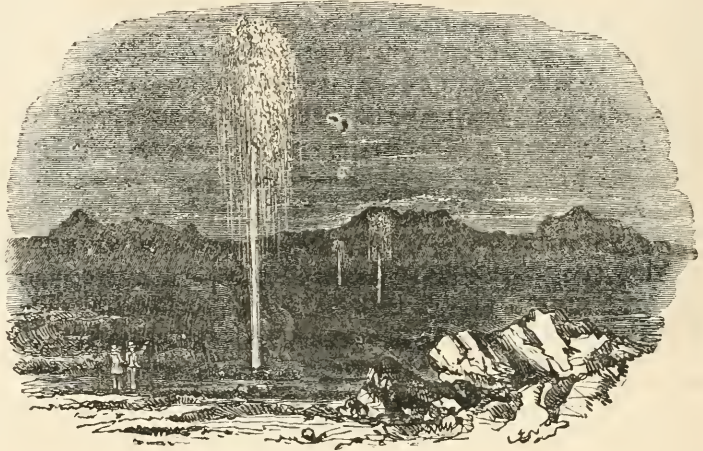


Fig. 55.—Natural Jet D'Eau.

Under ordinary circumstances the scenic features that surround garden fountains are such that the impression one receives on seeing water forced into the air is, that art has been employed to produce the effect. Therefore, while still water finds its more appropriate locality in the lower portion of the grounds, fountains may be more properly placed in the higher levels of a garden, as their evidently artificial character seems to find its appropriate situation in a position where water would be highly desirable and ornamental, but where it could only be brought by scientific and artistic means. Here, then, the display of art, even to a degree of ostentation, becomes legitimate; and fountains, of elaborate character and complicated architectural design, find their most imposing station at the extremities, or centres, of elevated terraces, and places of similar character, where the gardenesque, and semi-architectural character of the surround-

* From Gard. Magazine of Botany.

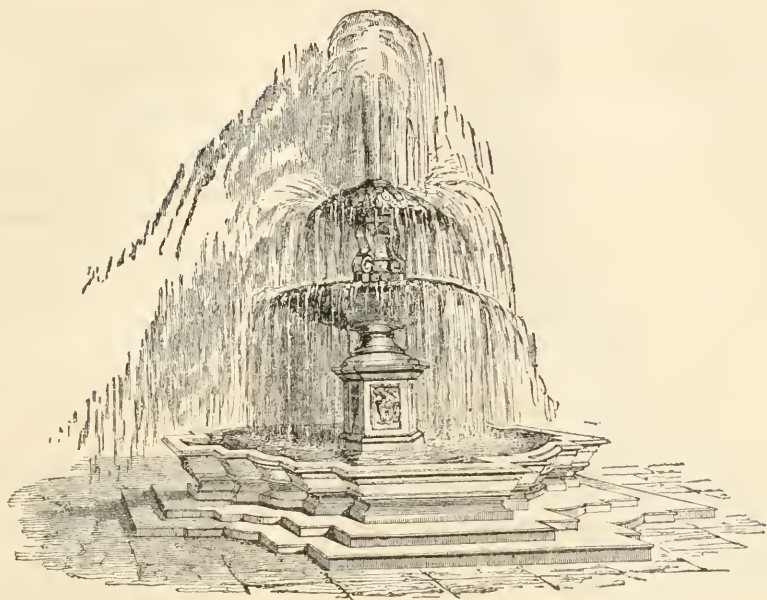


Fig. 56.—The Fountain of St. Peter's.

ing scene, is all in artistic harmony with them.

Very few good fountains have been as yet constructed in England; the two in Trafalgar Square—which our national *Charivari* (*Punch*) very aptly and cleverly compared to “two saucers surmounted by a bottle of ginger beer”—being signal failures; and the one recently erected at Brighton, though on a more ambitious scale, almost equally unsuccessful. Into the region of “art,” in the treatment of fountains, we have not yet penetrated; but in simpler forms of fountains—that of a simple jet issuing at once from the level of the main water—greater success has been attained, as mere “dimension” is the great quality in this unadorned natural effect. The scale is, in fact, everything; and so far, the jet at Chatsworth is highly successful—indeed, magnificent; but all the other attempts at fountain-work, all the minor squirts, including the too celebrated “water-tree,” are beneath notice; and still more worthless, in point of art, are all the fantastic failures called fountains at Alton towers.

Modern Italy is the classic land of fountains. Long before Le Notre and his contemporaries and *collaborateurs* constructed the celebrated water-works of Versailles, the mag-

nificent fountains of the Villa d'Este, and those of the Villa Aldobrandini, were well known and justly celebrated works, especially the building called the “Saloon of the Winds,” where water is made to produce rushing sounds characteristic of the four winds, the personifying deities of which form sculptural groups, among which the play of waters has a very grand effect. Still more elaborate is the work of Giacomo della Porta, the celebrated *Mount Parnassus*, with the deities playing on different musical instruments, the sounds of which are imitated by the water in a manner, which, if not entirely successful, is yet sufficiently approaching the desired effect to be very astonishing. These wonders of the villas of the Sabine hills, in the region of Tivoli and Frascati, are, however, among the over-wrought effects of hydraulic science and art. More simple, and more artistically grand, are some of the fountains of Rome; that, for instance, which introduces the *acqua Paola* to Rome—a supply named after Pope Paul V., the founder of the Borghesi family, who repaired one of the ancient aqueducts, and so united a magnificent stream of water once more to Rome, after centuries of severation, in consequence of ruinous portions of the aqueduct allowing the stream to waste itself uselessly

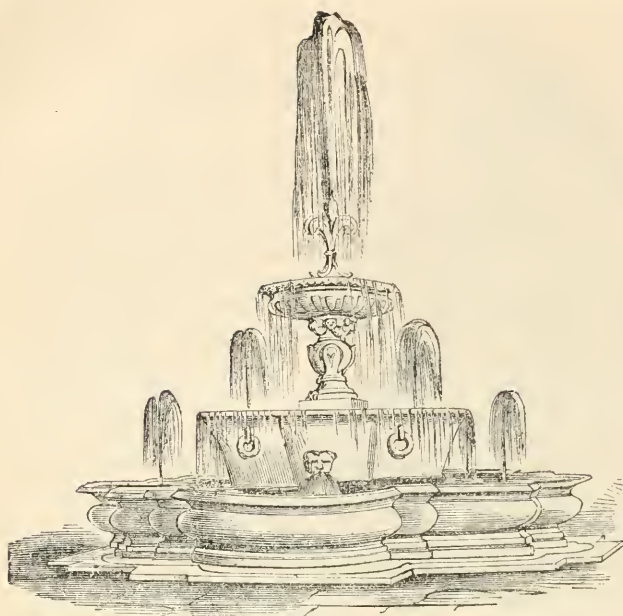


Fig. 57.—Fountain of the Palazzo Farnese.

on the Campagna. To usher this restored supply of the precious element into the "Eternal City" with due "pomp and circumstance," a magnificent architectural composition was erected on the slope of the Janiculan hill, between the columns of which three grandly designed apertures appear, from which three torrents—for no other term will sufficiently express the bulk of water—fall with a deafening sound, amid a cloud of spray, into three gigantic *tazze*, from which conduits carry the water to supply many of the greater, and an endless number of the lesser fountains of Rome.

The fountains on the *Piazza San' Pietro* are, perhaps, the finest detached specimens of purely decorative fountains in existence. They are the work of Carlo Maderno; and such is the magnificent character of this simple design—the quantity of water thrown up, and falling in clouds of spray, in which, at a certain hour, one or more rainbows are distinctly seen—that, even immediately in front of St. Peter's, one of the largest and most imposing build-

ings in the world, their effect, so far from being insignificant, is most grand and imposing. These, with the great fountain of Trevi, have afforded Madame de Staël subject for some of her most eloquent, descriptive passages in her admirable novel, "*Corinne, ou l'Italie*."

Fig. 56 is a small, and, of course, inadequate, representation of one of the fountains of St. Peter's; fig. 57, that of the Palazzo Farnese; and fig. 58, another grand and simple example of the fountains of Rome—that of the Court of the Belvedere.

In these fountains the abundance of water always forms the grandest feature—a mere squirt is but a caricature in comparison; for, to cite a passage recently quoted by Emerson in his *Representative Men*,

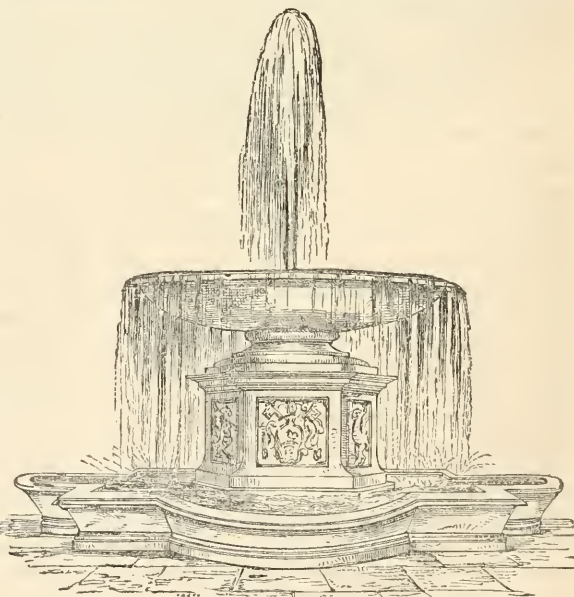


Fig. 58.—Fountain of the Vatican, in the Court of the Belvedere.

"A single drop of sea-water possesses all the chemical properties of the great ocean of which it is a part, but it is incapable of representing the phenomenon of a storm."

Thus we see that *magnitude* must inevitably form a great element in the sublime, and that dimension, as well as design, are points to be considered in the construction of objects intended to produce a certain effect of grandeur.

In places, however, where an enormous supply of water would be impossible, very pretty effects, approaching even the grand, may be attained by judicious management. The water, by the assistance of special contrivances, being made to appear more plentiful than it is, and by the aid of moveable heads fitting on the pipe of supply, a great

variety of effects may be produced; but these should only be used on certain occasions, the simplest possible form being the one in which the action of the fountain should be commonly seen.

My examples from the fountains of Rome have not been selected to exhibit the vast scale and magnificence of the greatest of those works, many of which occupy great space; being, in fact, complicated sculptural tableaux, in which a great number of statues are required to complete the composition. I have rather selected such examples as might be applicable to practical purposes.

THE N. Y. AGRICULTURAL SCHOOL—Reasons why the Bill was not Passed.

BY E. W. L., SYRACUSE, N. Y.

A. J. DOWNING, ESQ.—*Dear Sir*: The notice of the bill to establish an agricultural college, contained in the June number of the Horticulturist, does manifest injustice to the chairman of the select committee, which had that subject in special charge.

On his motion, at an early day in the session, the subject was referred to a select committee of *eight*—one from each judicial district. The number of members in the committee was increased, and their location in the different parts of the state was regulated, in consequence of the great importance of the subject and the deep interest felt in it throughout the state.

In the formation of the committee, particular pains were taken that it should contain the most intelligent agriculturists, and the warmest friends of the farming interests which were to be found in the House; and it will be sufficient to say, that on the committee were Messrs. Graham of the 2d, Nott of the 3d, Horton of the 4th, McLane of the 7th, and Orlando Allen of the 8th; all of whom are not only practical farmers, but gentlemen of high intelligence, and deeply interested in the proposed institution.

The committee did not remain idle; but after repeated consultations among themselves, and with the prominent friends of the proposed institution in the state, at a day sufficiently early, reported a bill, drawn up with much care.

The bill was then in the hands of the House, and it was in the power of any gentleman to move it forward. But the chairman of the committee, which reports a bill, is generally expected still to give it his attention. Accordingly, on his motion, soon after the bill and report were printed, it was made a *special order* for a day some week or ten days ahead. This vote required and obtained the concurrence of two-thirds of the members.

When the day however arrived, the special order was superseded by the third reading of bills, which, under the decision of the Speaker pro tem., Mr. Dininny, took preference of all other business after it was commenced.

But the chairman of the committee did not leave the bill to its fate. At the earliest practicable day he again moved that it should be made a special order for an early day, and procured another two-third vote for that pur-

pose. Unfortunately, when the day arrived, either the House did not sit, or the special order was superseded again, as before,—the Speaker pro tem., holding that after the third reading of bills commenced, that order of business could not be laid on the table, even by the unanimous vote of the House.

It was now near the close of the session. Each member had his own bills to look after. Few were willing to make any bill, however important, a special order, save his own. But that no blame might rest on the committee or its chairman, he made one more effort to get the bill before the House, by making it a special order. This was the only mode in which it was possible to effect the object; and the motion was made with the advice, if not at the instance, of Joseph Blunt, Esq., of New-York, one of the warm friends of the bill. But, as was anticipated, it failed; the bill was not reached.

So much seems necessary, by the way of explanation, to show that there were "special champions" in the House, both ready and anxious to do all in their power to secure the passage of this most important bill, and who, in fact, *did do* all that could have been done by others. But I regret to add, that while the House treated the bill with all proper courtesy, and seemed willing to act upon it, there was a large number of members, and a majority of them active farmers, too, who were either indifferent to the bill, or actually hostile to it.

There are two facts connected with this subject which are most extraordinary.

The first is, that while two-thirds of the people of this state and the Union are engaged in agricultural pursuits, there is not on the entire continent, one institution of a high character, where a thorough and practical agricultural education can be obtained.

The other is, that while this utter destitution exists, and has been pointed out, and is

seen and felt by many, a large majority even of the farmers—the intelligent farmers of this great state, who have a perfect remedy in their own power—are both indifferent to the fact, and slow to apply the remedy. While they have been willingly expending hundreds of thousands for the education of the lawyers, and doctors, and clergymen of the state, they have expended nothing for the education of themselves. May we not hope that they will do themselves justice before another winter shall have drawn to a close?

E. W. L.

Syracuse, August 14th, 1850.

REMARKS.—We are obliged to the Hon. E. W. LEAVENWORTH for the explanation of the delay in reaching the bill at the last session of our legislature; an explanation which, from his position, he is so well able to give, and which is so entirely satisfactory.

We have heard, with a good deal of regret, many other facts which go to strengthen our correspondent's opinion, that to the lukewarmness, apathy, or indifference of the farmers themselves, more than any other cause, is to be attributed the tardy action of the legislature on this important subject.

Certainly, no *enlightened* farmer can be ignorant of the great and vital importance of such an educational institution for his children at the present day; and we should be sorry to believe that any large majority of the farmers is not sufficiently intelligent rightly to estimate the importance of education. Leaving out of the question the effects of a practical farming education on the value of land, (a thing as yet unknown in this country, but which has actually *doubled* the amount of farm products in England within thirty years past,) the farmer should remember that in our republic, knowledge is the element of personal power; and that his uneducated sons, "who work the farm," are forced to hold an inferior place, both in life and society,

while young men of equal calibre, educated for the professions, make the very laws which govern the farmers, and control and govern the whole civilization and progress of the age.

If the farmers of the present day are content that their sons shall be looked upon

twenty-five years hence, not only by all the professions, but all the other industrial bodies of the people, (who are all stirring in the matter of mental improvement,) as their inferiors, then they have only to regard with utter indifference all plans for sound agricultural schools. ED.

NOTES ON THE BEST ORNAMENTAL TREES.

BY AN ARBORICULTURIST, NEW-YORK.

It has occurred to me that at this, the season for planting trees, some hints from a planter of twenty years' experience, who has studied somewhat the effect of trees in the embellishment of country places, might not be unacceptable to some of your less experienced readers. To the *veterans* in arboriculture, I have nothing to say, for the reason that it is quite probable that they could teach me.

One of the points least observed by young planters, is the *habit* of trees, as regards coming early into leaf, and holding the foliage till late in the fall. What a valuable property is this, which gives us, in such trees, almost six weeks more of apparent summer than others; since no one can feel that summer, or even spring, has come, till the foliage of the trees is fully expanded. In the case of country places that are used merely as summer retreats, by citizens who pass eight months of the year in cities, this is not important; for even the Catalpa and the Kentucky Coffee—those two *laziest* trees in the northern states—will be in leaf by the time June and the citizens have saluted each other in the country. But for those who live in the country all the year round, it is important that the scenery round the house, which meets the eye daily, should be composed mostly of what I would call the reliable ornamental trees, for the northern states,—trees quite

hardy, of excellent persistent foliage, rapid growth, and other valuable properties, as regards foliage and form.

I. THE BEST FOLIAGED TREES. AMERICAN ELM.—By this, I mean our native drooping elm, which, though common in various parts of the country, can never be too common; and which, whether for grace, beauty, freshness and depth of foliage, or rapid growth, stands at the head of all trees that grow in this climate.

THE DUTCH, OR CORK ELM, ranks next to the foregoing. It is even a more luxuriant grower, and, though by no means so graceful, is still a fine tree, with a mossy head of dark green foliage, remaining quite green till the frosts have stripped almost every other tree. The *English Elm* has something of the same habit, while the *Scotch Elm* (I believe all these are now in the nurseries,) is more like our Weeping Elm.

THE NEGUNDO TREE—usually called the Ash-leaved Maple; a charming clean tree, with an airy and pretty habit of growth, forming a wide, rather than a lofty head. Its great merit is the lively cheerful tint of its leaves, which, being paler or tenderer in colour than those of most trees, afford a fine contrast to elms and oaks; hardy, a free grower, and very easily transplanted. It is one of the first to come into leaf; and its

pretty, pendulous, light green blossoms, much like currant blooms, make their appearance, to gladden the heart of the planter even before the foliage.

SILVER MAPLE.—A tree much planted, and well known in Pennsylvania and New-Jersey; very little known in any other of the northern states. Certainly, it is the prettiest of the maples in its graceful habit, as well as the most rapid growing, though it has not the rich colouring of the Sugar Maple in autumn,—the leaves dying of a pale yellow. The Sugar and the Soft or Red-blossomed Maples are also most deserving trees; but when immediate effect is wanted, the Silver Maple should be planted in preference.

ENGLISH SYCAMORE MAPLE.—A fine hardy tree, which, I am sorry to say, is yet by no means common in this country. Its fine, large, and broad leaves, coming out early and hanging till late, make it a capital standard tree for the lawn or pleasure ground.

WEeping BIRCH.—A Scotch tree, very graceful in the landscape, with light airy foliage and pleasing habit.

WEeping WILLOW.—In the middle states this is a very valuable tree; at the extreme north it is rather delicate. The very first tender green tree leaves that salute the long-ing eye, when winter is fairly past, are those of the willow, as well as the last that defy the frost in autumn. Very rapid growth, and much grace of outline, are additional good qualities. Undoubtedly the willow, like the Lombardy Poplar, should never be *abundantly* planted in any country place. Such marked and peculiar trees, like great generals, should never be made common and vulgar, by assembling too many of them in one *review*; though a few of them, certainly one or two, in a rural landscape, *tell* admirably. Where there is water in the scene—such as a lake, pond, or river—the willow, which so essentially belongs there, may be more multi-

plied. It is a mistake, however, to suppose that the tree will not grow in dry soil. In a good, deep, dry soil, few trees thrive better or make wood faster than the Weeping Willow. It is only in *thin*, dry soil that it fails.

TULIP TREE.—Though this can hardly be called an *early* tree, neither can it be deemed *late*, as its leaves come out soon after those of the maple, its great *elegance* of habit, and striking beauty of leaf and blossom, recommend it to every planter who has an eye for fine proportions. It is quite shy of removal when large; and I therefore recommend planters to choose small specimens, four or five feet high, from the nursery. Once established in deep soils, it advances with great rapidity; and whether young or old, there are few finer things to gaze upon than a tulip tree, standing on an open lawn, where it can expand freely on all sides.

THE COMMON CHESTNUT.—I never see this noble tree planted; and the reason is, because it is one of the commonest trees in the woods. And yet, how few of us know how majestic and grand is a chestnut, grown on a lawn where there is “ample room and verge enough;” where it can form a gigantic and massy head, like a great globe. Certainly, the American chestnut is a more *beautiful* large tree than the oak; since, to equal grandeur of proportions, it adds greater variety of tint. Few things are finer than a group of chestnuts, in full tassel; and few trees afford a finer shade, or attain a large size more rapidly. If a little pains were taken to select the largest and finest nuts to sow, a great improvement might be made in the size and quality of the fruit.

THE PURPLE BEECH.—All the beeches are fine trees; but the true Purple Beech is a very valuable tree in the landscape, as its colour is a bold contrast to the uniform green tint of most other deciduous trees. If the soil is well trenched, and made light and

rich, and especially if dressed with wood ashes occasionally, it gets on pretty rapidly, and soon makes a figure, so that it is sure to be inquired about by the dullest observer.

WEeping ASH.—A striking ornament to the lawn or pleasure grounds, especially if grafted high; the foliage a good colour, and the tree very picturesque.

THE EUROPEAN ASH is a decidedly 'hand-some and valuable tree,—perhaps more ornamental in pleasure grounds, while under 30 feet high, than any of our American ashes. The *Mountain Ash* is a distinct tree, very ornamental in its coral berries during summer. It is not quite reliable, however, in its foliage, as it is apt, in light soils, to cast its leaves rather early in the autumn.

THE EUROPEAN LARCH may, I think, be safely put down as an ornamental tree of standard value in this climate. Its buds expand early, and only late frosts cause the leaves to fall. It suits light and poor soils better than almost any other tree.

II. FINE ORNAMENTAL TREES WITH CERTAIN DRAWBACKS.—Among these, I should say the Linden and the Horse Chestnut are the most conspicuous. Both these make very superb single trees in the park or pleasure grounds; and upon deep rich soils—strong loams—they hold their foliage well all the season. In thin or light soils, especially if dry, they frequently become yellow early in the autumn; but he whose planting is confined to such soils, will therefore not wholly deny himself the pleasure of planting such trees as these, only he will not plant them in the nearer and more highly kept parts of the scenery about the house. The Catalpa, the Locust, the Acacia, the Kentucky Coffee, and the Paulownia—all which expand their leaves quite late in the season, should also be confined to the walks of the pleasure grounds or the *secondary* groups of the plantations; I mean secondary, as regards the scenery about

the house, so that the foreground, in spring, may not be made to look wintry still, by the presence of dead looking trees, while all around are in full verdure.

I have said nothing as yet about *Magnolias*, though they are the pride of our pleasure grounds. They must, however, be looked upon as *specialities*, requiring a little more attention, as to soil and site, at first, than other trees, though no more care after they are once established. They need a deep, rich, dry soil, *well drained*, and with about a fourth of well decomposed black earth, peat, or rather leaves intermixed. The most easily cultivated and showy sort in its foliage and flowers, is the **UMBRELLA MAGNOLIA**, (*M. tripetala*;) the handsomest in its flowers, the **CHINESE WHITE**, (*M. conspicua*;) and the sweetest, the **SWAMP MAGNOLIA**, or *M. glauca*. These are all hardy wherever the Isabella grape will ripen, and are certainly well worthy of a place in every garden.

Among really interesting ornamental trees, I must not forget the *Ginko*, or *Salisburia*—the curious tree from Japan, which grows almost as freely as a poplar in the middle states, and is quite as hardy. Nothing can be more unique than its foliage, or more interesting than the fact, that it stands midway in structure between deciduous and evergreen trees.

I ought to say something about **OAKS**; and I would do so, if I thought I could persuade your readers to plant them. But American forests are richer in species of this kind of trees than all the rest of the world; and I suppose, for that very reason, Americans will not plant oaks—as yet. Perhaps when the forests have become sparse, we shall more rightly value the different beautiful kinds, which not one in ten knows even by name yet!

There are, however, two species of oak, so distinct and so ornamental in plantations that

they should receive attention even now. One is the *Overcup Oak*, of the western states, with fine large foliage and immense acorns; and the other, the *Willow Oak*, of New-Jersey and the states south of it, with very narrow and distinct foliage. Trees of these may be had in many nurseries, and are worthy of

a conspicuous place in the landscape garden.

I intended to say something about evergreen trees of merit; but fearing to be deemed tedious, I leave it for another letter.

AN ARBORICULTURIST.

New-York, October, 1850.

A FEW NOTES ON ROOT-PRUNING.

BY JAMES STEWART, MEMPHIS, TENN.

I SAW in one of your numbers an article on root-pruning, from the pen of Mr. ERRINGTON; and as little has appeared from your correspondents, I judge the importance of it is still little known. You have many talented writers on bark-binding, bark-bursting, gumming, diseases of the leaf, fire-blight, &c. But as I think many of these writers have not gone to the root of the matter, I beg you to allow me to make a few remarks, bearing on all those diseases. At the same time, I will endeavor to explain the system I practice, and give its results.

The roots, and the soil in which they are in—the one to take up the food—the other to contain it—these are the most important points; and accordingly, the tree flourishes in health, or is corrupted by disease in all its forms. I will remark, in the onset, that it is the lot of some persons to have to do with an excellent deep soil, calculated to grow anything their climate will produce. These have their pears, apples, plums, cherries, &c., all growing most luxuriantly. They have probably been planted long enough to yield fruit, but never before done so. The trees are in good health, are pruned every year, yet there are no signs of fruit. It is wholly because they have entirely given way to luxuriant growth. This must be checked, to bring them into a fruitful condition by root-pruning.

You may ring them, or apply a host of other *above-ground* remedies; but you still have the same source of over-luxuriance at the root. Mr. E.'s system of pruning with the knife is good, but I fear calculated to involve too much labor and trouble. Thinking we need something here more easily accomplished, I have adopted the following plan:

I take a spade and axe, and dig round the tree to the distance of from one to two feet from the main mass of roots, and cut away every root I meet, leaving only the fibres that are within that circle, if any. Close the trench, and proceed till you get over them all. At such a time, it is best to cut away, or shorten-back, the superabundant top, leaving the tree light and well shaped.

In a second instance, the fruit-grower may be obliged to leave his tree on a low, and, of course, damp situation. His trees grow well, for a few years, but lately they have spots and diseases in the leaf; yellow-pointed, thick and watery shoots. The diseased parts are, perhaps, cut away, but yet the remainder keep getting worse. The roots, in this case, have got into, and are feeding on the stagnant gases of a sour, uncultivated soil, which has, possibly, never been broken up, in order that the air might pulverise, purify and sweeten it. Here, trench round the tree to the depth of two feet, (beginning as close as you can to the

trunk,) to a width proportionate to the size of the tree, thoroughly reversing the soil, by turning that which is well sweetened to the bottom, and leaving the bottom, when turned, on the top, rough and loose. I need not add, that a drain or two will permanently mend matters. Meantime, cut away the roots, as in the first instance.

Another case, may be one upon a good open elevation, but the soil not deep, the bottom a red clay. Here, the trees do well for a time; but at length they get stunted in growth, bark-bound, the bark bursts, the fruit is not good for anything,—being cracked and deformed. In such a case, trench, as in the second instance, substituting an equal bulk of good soil for the superabundance of clay, which must be taken out, cutting all roots as before, and so on, according to the nature, the depth, and quality of the soil. So will you find the condition of your trees in differ-

ent instances; by tracing the roots, you will find some dead and rotting at the points, some swollen to a great thickness, others with two or three coats of rusty-like bark; all of which produce a bad effect upon the growth and fruit of the tree, which is the cause of nine out of ten of the diseases by which fruit trees are so much affected at the west—bark-binding and bark-bursting. I never knew the bark of trees, after the second year of root-pruning, give way in the slightest, even when slit with the knife, although formerly the bark of the same trees opened almost faster than the knife could proceed.

Ten years' practical experience has taught me the vast importance of root-pruning, on all soils not naturally favorable to sound growth and the production of fruit.

JAMES STEWART.

Memphis, Tenn., October, 1850.

MR. DOWNING'S LETTERS FROM ENGLAND.

CHATSWORTH, the magnificent seat of the DUKE OF DEVONSHIRE, has the unquestionable reputation of being the finest private country residence in the world. You will pardon me, then, if I bestow a few more words on it, than the passing tourist is accustomed to do.

I ought to preface my account of it by telling you that the present Duke, now about sixty, with an income equal to what passes for a very large fortune in America, has all his life-time been remarkable for his fine taste, especially in gardening; and that this residence has an immense advantage over most other English places, in being set down in the midst of picturesque Derbyshire, instead of an ordinary park level. In consequence of the latter circumstance, the high-

est art is contrasted and heightened by the fine setting of a higher nature.

If you enter Chatsworth, as most visitors do, by the Edensor gate, you will be arrested by a little village—Edensor itself; a lovely lane, bordered by cottages, just within the gate, that has been wholly built by the present Duke. It is quite a study, and is precisely what everybody imagines the possibility of doing, and what no one but a king or a subject with a princely fortune, and a taste not always born with princes, could do. In short, it is such a village as a poet-architect would design, if it were as easy to make houses of solid materials as it is to draw them on paper. There may be thirty or forty cottages in all, and every one most tasteful in form and proportions, most admirably built,

and set in its appropriate frame-work of trees and shrubbery,—making an *ensemble* such as I saw nowhere else in England. There are dwellings in the Italian, Gothic, Norman, Swiss, and two or three more styles; each as capital a study as you will find in any of the architectural works, with the advantage which the reality always has over its counterfeit.

From this little village to Chatsworth house, or palace, is about two miles, through a park which is a broad valley, say a couple of miles wide by half a dozen long. It is indeed just one of those valleys which our own DURAND loves to paint in his ideal landscapes, backed by wooded hills and sylvan slopes, some 300 or 400 feet high, with a lovely English river—the Derwent—running like a silver cord through the emerald park, and grouped with noble drooping limes, oaks, and elms, that are scattered over its broad surface. After driving about a mile, the palace bursts upon your view—the broad valley park spread out below and before it—the richly wooded hill rising behind it—the superb Italian gardens lying around it—the whole, a palace in Arcadia. On the crest of the hill, from the top of a picturesque tower, floats the flag which apprises you that the owner of all that you see on every side—the park of twelve miles' circuit, (filled with herds of the largest and most beautiful deer I have yet seen,) valley, hills, and the little world which the horizon shuts in—is at home in his castle.

The palace is a superb pile, extending in all some 800 feet. It is designed in the classical style, and is built of the finest material,—a stone of a rich golden brown tint, which harmonizes well with the rich setting of foliage, out of which it rises.

CAVENDISH, is the family name of the DUKE OF DEVONSHIRE, and this estate became the property of SIR W. CAVENDISH,

in the time of ELIZABETH. The main building was erected by the first Duke in 1702, and the stately wings, containing the picture and sculpture galleries, by the present Duke. Every portion, however, is in the finest possible order and preservation; and it would be difficult for the stranger to point out which part of the palace belongs to the eighteenth, and which to the nineteenth centuries.

You enter the gilded gates at the fine portal at one end of the range, and drive along a court some distance, till you are set down at the main entrance door of the palace. The middle of the court is occupied by a marble statue of Orion, seated on the back of a dolphin, about which the waters of a fountain are constantly playing. From the chaste and beautiful entrance hall rises a broad flight of stairs, which leads to the suite of state rooms, sculpture gallery, collection of pictures, etc.

The state rooms—a magnificent suite of apartments, with windows composed each of one single plate of glass, and commanding the most exquisite views—are hung with tapestry, or the walls are covered with stamped leather, enriched with gilding. In these rooms are the matchless carvings in wood, by Gibbons, of which, like everybody else curious in such matters, I had heard much, but which fairly beggar all praise. No one can conceive carving so wonderfully beautiful and true as this. The groups of dead game hang from the walls with the death flutter in the wings of the birds, and a bit of lace ribbon, which ties one of the festoons, is—more delicate than lace itself. The finest pictures of Raphael could not have *astonished* me so much as these matchless artistic carvings in wood.

A very noble library, a fine collection of pictures, and the choicest sculpture gallery in England, (over 100 feet long, especially rich in the works of CANOVA, THORWALSDEN, and CHANTREY,) a long corridor, completely lined with original *sketches* by the great mas-

ters, and a very richly decorated private chapel, are among the show apartments of Chatsworth.

So much of the palace as I have enumerated, along with all the out-of-door treasures of the domain, is generously thrown open to the public by the Duke; and you may believe that the opportunity of gratifying their curiosity is not thrown away, when I tell you that upwards of 80,000 persons visited Chatsworth last year. Having heard this before I went there, I fancied the annoyance which all this publicity must give to the possessor and his guests. But when I saw the vast size of the house, and how completely distinct the rooms of the guests and the private apartments of the Duke are, from the portion seen by the public, I became aware how little inconvenience the proper inmates of the palace suffered by the relinquishment of the show rooms. The private suite of drawing-rooms, appropriated to the guests at Chatsworth, is decorated and furnished in a far more chaste and simple style than the state rooms, though with the greatest refinement and elegance. Among these adornings, I observed a superb clock, and some very large vases of green malachite, presented by the EMPEROR OF RUSSIA; LANDSEER's original picture of Bolton Abbey, and that touching story of BELISARIUS—old, blind, and asking alms—told upon canvass by MURILLO, so powerfully as to send a thrill through the dullest observer.

In the ground floor, opening on a level with the Italian gardens, is the charming suite of apartments, occupied chiefly by the DUKE when his guests are not numerous. Nothing can well be imagined more tasteful than these rooms,—a complete suite, beginning with a breakfast-room, and ending with the most select and beautiful of small libraries, and including cabinets of minerals, gems, pictures, etc. The whole had all that snugness and cosiness which is so

exactly opposite to what one expects to find in a palace, and which gave me the index to a mind capable of seizing and enjoying the delights of both extremes of refined life. The completeness of Chatsworth House, as you will gather from what I have said, is that it contains under one roof, suites of apartments for living in three different styles—that of the palace, the great country house, and the cottage ornée. With such a prodigality of space, you can easily see that the DUKE can afford, for the greater part of the year, to throw the palace proper, i. e., the state rooms, open to the enjoyment of the public.

The next morning after my arrival at Chatsworth, was one of unusual brilliancy. The air was soft, but the sunshine was that of our side of the Atlantic, rather than the mild and tempered gray of England. After breakfast, and before making our exploration of the gardens and pleasure grounds, the DUKE had the kindness to direct the whole wealth of fountains and *grandes eaux* to be put in full play for the day,—a spectacle not usually seen; as indeed the Emperor fountain is so powerful and so high that it is dangerous to play it, except when the atmosphere is calm.

We enter the Italian gardens. And what are the Italian gardens? you are ready to inquire. I will tell you. They are the series of broad terraces, on two or three levels, which surround the palace, and which, containing half a dozen acres or more of highly dressed garden scenery, separate the pleasure grounds and the house from the more sylvan and rural park. As the house is on a higher level than most of the valley, you lean over the massive Italian balustrade of the terrace, (all of that rich golden stone,) and catch fine vistas of the park scenery below and beyond you. Of course, the Italian gardens are laid out in that symmetrical style which best accords with a grand mass of architecture, and

are decorated with fine vases, statues, and fountains. A pretty effect is produced by avenues of Portugal laurels, grown with single stems and round heads, like the orange trees that always border the walks of the gardens of the continent; and the DUKE mentioned, in passing, that the PRINCE and PRINCESS BORGHESE, who had been guests at Chatsworth but a few days before, had really mistaken them for orange trees. But one point where the Italian gardens of Chatsworth must always be finer than any in Italy, is in the carpet of turf which forms their ground-work. The "velvet turf" of England is world-wide in its reputation; but no one, till he sees it as it is here—short, tufted, elastic to the tread—can realize that the phrase is *not* a metaphor. A surface of real dark green velvet of a dozen acres, would scarcely soothe the eye more, by its look of softness and smoothness, than the turf in the Italian gardens at Chatsworth.

But the crowning glory of Chatsworth, is its fountains. In a country where water is always scarce, a situation that affords a pretty stream, or a small artificial lake, is a rarity. But the whole of the hill, or mountain, that rises behind the house and pleasure grounds, is full of springs, and has been made a vast reservoir, which is perfectly under command, and fulfils its purposes of beauty as if it were under the spell of some enchanter. If you will suppose yourself standing with me on the upper terrace of the Italian gardens that morning, behind you rises up the palace, stately and magnificent; all along its front of 800 feet, those gardens extend—a carpet of velvet, divided by broad alleys, enriched by masses of the richest flowers, and enlivened by fountains of various forms, sparkling in the sunshine like silver. Before you, also, stretches part of these gardens—a part in which the principal feature is a mirror-like lake, set in turf, and overhung

by a noble avenue of drooping lime trees—beyond which you catch a vista of the distant hills.

Out of this limpid sheet springs up a fountain, so high that, as you look upward and fairly hold your breath with astonishment, you almost expect it, with its next leap, to reach the sky; and yet, with all this vast power and volume, it is so light, and airy, and beautiful, and it bursts at the top, and falls in such a superb storm of diamonds, that you will not be convinced that it is not a production of nature, like Niagara. This is the Emperor Fountain—the highest in the world; about the height, I should say, of Trinity Church spire.* It is only suffered to play on calm days, as the weight of the falling water, if blown aside by a high wind, would seriously damage the pleasure grounds.

As the eye turns to the left, the wooded hill, which forms the rich forest back-ground to this scene, seems to have run mad with cataracts. Far off among the precipices, near its top, you see waterfalls bursting out among the rocks,—now disappearing amid the thick foliage of the wood, and then reappearing lower down, foaming with velocity, and plunging again into the dark woods. Towards the base of the hill stands a circular water-temple, out of which the water rises. It gushes out as if from the hydrant of the water gods, and, running down a slope, falls at the back of the gardens down a long flight of very broad marble steps, that lead from the water-temple to the edge of the pleasure ground, so as to give the effect of a waterfall of an hundred or more feet high. This wealth of water, as if some river at the back of the mountain had broke loose, and, after wild pranks in the hills, had been forced into order and symmetry in the pleasure

* The height of the Emperor Fountain is 267 feet. The next highest fountains in the world, are one at Hesse Cassel, 190 feet; one at St. Cloud, 160 feet; and the great jet at Versailles, 90 feet.

grounds, gives almost the tumult and excitement of a freshet in the wilderness to this most exquisite combination of garden and natural scenery.

Leaving the point—where you take in, without moving, all this magical landscape—you wander through flower gardens, and amid pleasure grounds, till you reach a more wooded and natural looking *paysage*. The fountains, the carefully polished Italian gardens, are no longer in view. The path becomes wild, and, after a turn, you enter upon a scene the very opposite to all that I have been describing. You take it for a rocky wilderness. The rocks are of vast size, and indeed of all sizes; with thickets of Laurels, Rhododendrons and Azaleas growing among them, Ivy and other vines climbing over them, and foot-paths winding through them. From the top of a rocky precipice, some 30 feet high, dashes down a waterfall, which loses itself in a pretty meandering stream that steals away from the foot of the rock. Nothing can well look wilder or more natural than this spot; and yet this spot, the “rock-garden,” of six acres, has all been created. Every one of these rocks has been brought here—some of them from two or three miles away. It is just as wild a scene as one finds on the skirts of some wooded limestone ridge in America. Though it was all made a few years ago, yet now that the trees and shrubs have had time to take forms of wild luxuriance, all traces of art are obliterated. The eye of the botanist only, detects that the masses of laurels are rare Rhododendrons, and that beautiful Azaleas of the Alps* make the underwood to the forest that surrounds it.

You wish to go onward. We will leave the rock-garden by this path, on the side opposite to that which we entered. No, that, you see, is impossible; a huge rock, weighing

50 or 60 tons, exactly stops up the path and lies across it. Your companion smiles at your perplexity, and with a single touch of his hand, the rock slowly turns on its centre, and the path is unobstructed! There is no noise, and nothing visible to explain the mystery; and when the rock has been as quietly turned back to its place, it looks so firm and solid upon its base, that you feel almost certain that either your muscles or the rocks themselves obey the spell of some unseen and supernatural wood spirit.

One of the greatest beauties at Chatsworth lies in the diversity of surface—the succession of hill and dale, which, especially in the pleasure grounds, continually occurs. This variation offers excellent opportunities for the production of a succession of scenes, now highly ornate and artistic, like the flower gardens, now romantic and picturesque like the rocky valley. And as we continue our ramble, after entirely losing sight of the wild scene I have just described, we enter upon another still different,—a wide glade or opening, like an amphitheatre, in the midst of a fine grove of trees. An immense palace of glass rises before us. Its curved roof, springing 70 feet high, gleams in the morning sun; and you would be at a loss to conceive for what purpose this vast structure was intended, did you not see, as you approached by the indistinct forms of the foliage, that it encloses another garden. This is the great conservatory, which is 300 feet long, and covers rather more than an acre of ground. Through its midst runs a broad road, over which the DUKE and his guests occasionally drive in a carriage and four. All the riches of the tropics are grown here, planted in the soil, as if in their native climate; and a series of hot-water pipes maintain, perpetually, the temperature of Cuba in the heart of Derbyshire. The surface is not entirely level, but there are rocky hills and steep walks winding over them; and

* *Azalea*, or, rather, *Rhododendron hirsutum* and *ferrugineum*; two beautiful sorts, perfectly hardy.

lofty as the roof is, some of the palms of South America have already nearly reached the glass. From the branches and trunks of many of the largest, hang curious air plants, brilliant, and apparently as little fixed to one spot as summer butterflies.

But I shall never bring this letter to a close, if I dwell even slightly upon any interesting scene in detail. I must mention, however, in passing, the *arboretum*—perhaps a mile long—planted with the rarest trees, and every day becoming richer and more interesting to the botanist and the landscape gardener. The trees are neither set in formal lines, nor grouped in a single scene, but are scattered along a picturesque drive, with space enough for each to develop its natural habit of growth. There are some very graceful Deodar Cedars here, and a great many *Araucarias*. But the two most striking and superb trees, which I nowhere else saw half so large and in such perfection, were Douglass' Fir, (*Abies Douglassi*.) and the noble Fir, (*Abies nobilis*.) They are two of the magnificent evergreens of California and Oregon, discovered by DOUGLASS, and brought to England about 18 years ago. These two specimens are now about 35 feet high, extremely elegant in their proportions, as well as beautiful in shape and colour. I cannot describe them, briefly, so well as by comparing the first to a gigantic and superb Balsam Fir, with far larger leaves, a luxuriance and freedom always wanting in the Balsam, together with the richest dark bronze green foliage; and the latter to the finest drooping Norway Spruce, equally multiplied in the scale of luxuriance and grace. They grow upon a rocky bank, overhanging a pool of clear water, and look as if thoroughly at home, on the slope of a hill side in Oregon.

The arboretum walk forms a complete collection of all the hardy trees that will grow out of doors at Chatsworth, with space for planting every new species as it may be intro-

duced into Great Britain. A fine effect is produced by grafting the Weeping Ash into the top of a common ash tree with a tall trunk 30 feet high, whence it falls on all sides more gracefully and prettily than when grafted low; a hint that I laid up for easy practice at home.

A mile further on, and you reach the tower, on the hill top, where the eye commands the whole of Chatsworth valley,—such a picture of palace and pleasure ground, park and forest scenery as can be found, perhaps, nowhere else in the circle of the planet.

After a long exploration—after exhausting all the well bred expressions of enthusiasm in my vocabulary, and imagining that it was impossible that landscape gardening, and embellishment, and park scenery, and pleasure ground decoration, could farther go—the DUKE reminded me that I had neither seen the kitchen gardens, the great peach tree, nor the famous new water lily—the *Victoria regia*; and that Mr. PAXTON, his able *chef*, would never forgive a neglect of so important a feature in a place. As the gardens where all these new wonders lay, were quite on the opposite side of the park, we gladly took to the carriage after our industrious morning's ramble.

I shall not attempt to describe these large and complete fruit and forcing gardens. But the peach tree of Chatsworth has not, to my recollection, been described, though it deserves to be as famous as the grapevine of Hampton Court. It is the more wonderful, because, as you know, peach trees do not grow in England in orchards of 500 acres, like those of the REYBOLD'S, in Delaware; but are only seen upon walls, or under glass. Yet I assure you, our friend R.'s eyes, accustom'd as they are to peach blossoms by the mile, would have dilated at the sight of this monster tree, occupying a glass house by itself, and extending over a trellis—I should

say a hundred feet long. I inquired about the product of this tree, and when the number was mentioned, I imagine His Grace detected a slight smile of incredulity; for he begged Mr. PAXTON to copy for me, and subscribe his name to, the accurate statistics of the present crop. I send it to you in a note,* with the addition, that the fruit was of the variety known as the Royal George, very large, and finer flavored than I had before tasted from trees grown under glass. The whole trellis, from one end to the other, was most admirably clothed—not a vacant place to be found.

Of the superb water lily, lately discovered in Brazil, and named *Victoria Regia*, in honor of the Queen, you have already published an account. It has grown and bloomed here more perfectly than elsewhere; though there are, also, good specimens at the DUKE OF NORTHUMBERLAND'S, and at Kew. The finest plant here occupies a house built specially for it, 60 by 45 feet, enclosing a small pond 33 feet in diameter for it to grow in. The plant is, unquestionably, the most magnificent aquatic known. The huge circular leaves, 4 to 5 feet across, are like great umbrellas in size; and the blossoms, as large as a man's hat—pure white, tipped with crimson—float upon the surface with a very queenly dignity, as if ready to command admiration. A small frame or board was placed on one of the leaves, merely in order to divide the weight equally as it floated; and it upheld the weight of a man readily. Some seeds were presented to me of this beautiful floral amazon before I left Chatsworth; but as it requires the tank to be heated to a temperature of 85°, and the water kept constantly in motion by a small wheel, I fear I shall not readily find an amateur in the United States

who will be inclined to indulge a taste for so expensive a floral fancy.*

The kitchen and forcing grounds are on an immense scale, and some handsome fruit was being packed to go as a present to the Queen. The pines were unusually large and fine; and the DUKE remarked that Mr. PAXTON has reduced the cost of producing them two-thirds, since he has had charge of that department,—some ten or twelve years.

If, after this lengthy description, I have almost wholly failed to give you an idea of Chatsworth, it is not wholly because my pen is not equal to the task. Something must be allowed for the difficulty of presenting to you any adequate notion of the variety, richness, and completeness of an estate, where you may spend many days with new objects of interest and beauty constantly before you; objects which, only to enumerate, would be presenting you with dry catalogues, instead of living pictures, brilliant and varying as those of the kaleidoscope.

And, I think I hear you say, this is all for the pride and pleasure of a single individual! All this is done to minister to his happiness. Not entirely. The DUKE OF DEVONSHIRE has the reputation, very deservedly, I should think, of being second to no man in England for his benevolence, kind-heartedness and liberality. Certainly, I think I may safely say, that Chatsworth shows more *refined taste*, joined to magnificence, both externally and internally, than any place I have ever seen. When one sees how many persons are constantly employed in the various works of improvement on this single estate, and how cheerfully the whole is thrown open to the

* "Memorandum of Peaches, borne by the Great Peach Tree at Chatsworth, in 1850.—Fruit thinned out at various times before maturity; 7801; do. left to ripen, 926; total crop, 8727.

Jos. PAXTON."

* If your readers were not already so well aware of Mr. PAXTON'S reputation, as one of the most scientific English horticulturists of the age, I should say more of his extraordinary ability, as shown at Chatsworth. His plan for the edifice now being erected in Hyde Park, for the great industrial exhibition of 1851, was adopted in preference of those offered by a number of the most eminent architects. It is to be wholly of glass and iron, and will cover about 21 acres of ground. There is little doubt that when the exhibition is over, it will be turned into the grandest winter garden in the world.

study and enjoyment of thousands and tens of thousands annually, one cannot but concede a liberal share of admiration and thanks to a nobleman who might follow the example of many others, and make his home his closed castle; but who prefers, on the other hand, to open, like a national picture gallery, this magnificent specimen of landscape gardening and architecture, on which his fine taste and ample fortune have been lavished for half a century.

One has only to visit Windsor and Buckingham Palace *after* Chatsworth, to see the difference between a noble and pure taste, and a royal want of it. The one may serve to educate and reform the world. The utmost that the other can do, is to dazzle and astonish those who cannot recognize real beauty or excellence in art.

A. J. D.

Derbyshire, August, 1850.

Is Hard Pressed Soil better adapted to the Growth of Plants than Porous Soil?

BY THOS. MEEHAN, PHILADELPHIA.

IN your highly interesting account of Mr. RIVERS' nursery in your last, you gave an account of the manner in which one of the most celebrated English market gardeners, (WILMOT, I presume,) successfully practices the forcing of the strawberry. The soil in the pots is pounded down *quite hard* with a mallet, and in it the plant soon strikes root, and fills the pots with an abundance of fibres.

You invite your readers to speculate upon, and explain this new problem in horticulture. I am delighted at your invitation—not because I feel that I can explain its cause, or that I can offer any speculative hypothesis; but because you have, in that invitation, placed before the horticultural world a subject for its consideration, which I have unsuccessfully studied for years. I am delighted, because it will doubtless be the means of attracting together such a mass of facts, observations, and opinions, that I may be enabled to form some rational theory on a subject I have had so long under consideration.

I am sure that you, Mr. Editor, in the course of your long and varied experience, must frequently have observed the truth of an axiom, delivered by that great man, who has so recently gone from amongst us—KIRBY,

the entomologist,—that “facts, in themselves seemingly trifling, are often of the greatest importance to the physiologist and natural philosopher.” I have found that this is true; and so, doubtless, have many of your readers. The firmly pressed soil in WILMOT’S strawberry pots, may lead to results as great in the practice of horticulture, as the falling of an apple has been to the science of astronomy; or the lifting by steam of a kettle lid, has been to mechanical knowledge. I have not much to throw into your treasury of knowledge on this subject; but I send in the best contribution I can just now afford.

My first observations are connected with the unfortunate potato. It was not long after my good father had permanently taken me with him, to teach me the beautiful intricacies of the various branches of his profession, that we were walking together through our farm, where the men were digging potatoes. In this field, were crops of salsify, scorzonera, carrots, parsneps, beets, and other kitchen stuff, which were mostly in daily requisition, and this with other reasons for crossing it, combined to make the *headlands* quite a road,—so much so, that perhaps for four or six feet wide, the potatoes were often trodden under

foot, and the ground about them rendered very hard. I pointed out to my father that the potatoes dug out of this strip were full one-third larger than the others, and inquired the reason. He gave it as his opinion, that the action of the plough,—drawing the manure towards the headlands, and the soil, from the same cause, being deeper there, the production of superior potatoes was the consequence. This partly satisfied me; but I never could entirely disconnect the idea of the big lumps of hard solid earth from the large potatoes.

The year following, another circumstance recalled this observation. My father's vegetable gardener, in drilling in some onion seed, spilled some on the alleys between the beds. In forming these alleys, the ground was, of course, much trodden; but the accidentally spilled seed produced onions twelve and fourteen inches in circumference, which, in that latitude (Isle of Wight,) was above the average. Sometime after that, I observed a similar circumstance attending a crop of carrots. Those which had grown in the neighborhood of some gooseberry trees, where the soil had been trodden down while gathering the green fruit, were much finer than the others. To get some explanation of these effects, I studied LEE and LINDLEY, MAIN, RENNIE, and whatever other writer on vegetable physiology I could lay my hands on; but the conclusions my facts seemed bent on leading me to, were so opposite to every principle seemingly laid down by these writers, that I then doubted the accuracy of my youthful judgment, and suffered the subject to sleep in my breast for some time.

Shortly after I became attached to the Royal Gardens at Kew, the question of the "one-shift," against the old or "progressive" system of potting plants, was started by Mr. W. P. AYRES, of Brookland, near London. While the discussions on these questions were

pending, one of my most intelligent corresponding friends, then attached to the Royal Gardens of Frogmore, wrote me an account of a visit to one of the ablest advocates of the one-shift system. He highly eulogized the appearance of the heaths; but at the same time, he suggested that the success many of the one-shift men had met with, in the fine growth of their plants, was owing more to the greater care taken to render the *mechanical condition* of the soil more perfect, than the followers of the "progressive" usually took. He particularly stated that the soil used by this grower was rammed into the pots most intensely; and that from what he there saw, he was satisfied that this was an essential point in the cultivation of the heath. They who were at Kew at the same time as I, will recollect the amusement the practice of our working foreman afforded us, in pounding and hammering the soil so vehemently around the plants he re-potted—so different from the practice we had experienced elsewhere. Yet, that amusement over, I am sure they will agree with me, that the majority of the plants in the Kew Gardens (though from the immense number of plants grown there, fine specimens must want room,) make as thrifty and as handsome shoots as any similar plants in any collection.

I will detail but one more fact, as I fear I am wearying your patience. When foreman to Mr. BUIST, at his fine new establishment at Rosedale, two or three miles from Philadelphia, it was necessary to pot between two or three hundred dwarf roses in mid-winter. It so happened, that from circumstances attendant on the formation of a nursery of such a large extent as this, the only soil we could use at that moment was frozen through. It was thawed by the fire, and, of course, became perfect mud. This was mixed with one-half rotten dung, and placed in the pots around the roots quite full, without being subjected

to the slightest pressure. Afterwards, these were placed in a cool pit. They received no water for six weeks. The soil was then rammed down as tightly as it could be made, and afterwards well watered. No roses ever made a more handsome growth than these did in this finely pressed and pounded soil.

My practice has been much modified by these and similar observations, though I have no satisfactory explanation of the reason why; but theory must hang on skirts of practice sometimes. I await further observation.

I may remark, ere I conclude, that agriculturists are, for once, ahead of us. Since the appearance of Stephens' "Book of the Farm," they know the preference to be given to firm soil, over that which is loose and porous. To those who may not have this valuable

work, the sentence to which I allude may be interesting. Under the head of wheat, he says,—“The land receives only one furrow after potatoes; and it should have time to subside a little before it is sowed, though the usual practice is to sow the wheat upon it as ploughed. The reason why I have so frequently recommended the subsidence of the land before sowing the seed, is, that wheat thrives much better in soil having a little firmness in it, than in the loose state the plough leaves it.”—(Stephens' Book of the Farm, vol. ii, page 417,—cheap American edition by the editor of the Plough, the Loom, and the Anvil, Philadelphia.) [Highly interesting facts. Ed.]

THOMAS MEEHAN.

Bartram Botanic Garden, Philadelphia, Oct., 1850.

ON THE CAUSE OF GUM IN STONE-FRUIT TREES.

BY A SUBSCRIBER, BOSTON.

GUMMING in Peach, and other stone-fruit bearing trees, has been the subject of various conjectures and experiments among horticulturists, but, as far as I can learn, very little has yet been made of it, and little light has been thrown on the subject in regard to the real cause of the malady, or a method of curing it. Most gardeners and horticulturists agree in calling it a disease—a very injurious one to the tree; and from its general character, we are very naturally led to draw this conclusion. From various investigations, however, which I have lately made on this subject, I am induced to form opinions regarding it somewhat different from those which I have seen recorded by others.

In Britain the exudation of gum is attributed to the coldness of the seasons, and the wet, unsuitable nature of the soil, and though trees grow under glass, are not exempted from it—

yet it is found that they gum less frequently than trees on the walls, out of doors, where alone they are cultivated in that country; nevertheless, we know very well, that trees are often as badly gummed in peach houses, under circumstances apparently adverse to the above causes, as they are out of doors, both in this country and in England. Although I would not assert that a cold climate and a wet soil has nothing to do with it, yet my observations go far to satisfy me that there must be a predisposing cause, before the trees can either be affected by the cold or moisture.

I have lately examined a large quantity of peach trees, in the neighborhood of Baltimore, some on dry, gravelly ground, and others under glass, under conditions altogether precluding the possibility of the foregoing causes. In both cases the trees were much gummed, and always at the surface of the ground, or a few

inches below the surface. I have taken as much as one pound of gum from a single tree, and those trees which have the largest exudations, I generally find the most vigorous, and have made the largest growths. In fact, I have never seen trees, either in the cold climate of Britain, or in the northern New England States, exude gum so excessively as in the warm and temperate climate of Maryland, under conditions the reverse of those which KNIGHT, LOUDON, and other eminent horticulturists, attributed its production.

It has likewise been supposed, that the depositions of gum were made in the spring, from the ascending juices, a kind of spontaneous extravasation, resulting from a superabundance of ascending sap, which the leaves are unable to assimilate, or to throw off by perspiration; I am fully satisfied that such is not the case, for I have made incisions in trees for the purpose of extravasation, when the vital forces of the trees were most active, in the spring, but in every case the wound thus made became exsiccated after the bleeding had ceased; in no case has the sap thus exuded been transformed into gum. As the season advances, small portions of the gum are formed, and towards the end of summer and autumn, it accumulates in large quantities, and the accumulation is always greatest, if not wholly from the upper side of the incision, showing that it has been poured down from the leaves with the descending current, and taking the first opportunity of exuding itself, instead of finding egress as it would otherwise do at the points of the roots.

This gum, then, is no loss to the tree, and I am convinced the trees would be better if they threw off more gum than they generally do, for it affords neither materials for wood nor fruit, any more than other organic substances. Its chemical constitution is different from that of woody fibre, the latter containing a larger proportion of carbon, showing that the

leaves have already appropriated as much carbon as the exercise of their functions enables them to fix, and convert along with the sap there accumulated, into woody fibre. This fixation of carbon, is analogous to the functions of digestion in animals. In the solid food of all animals, carbon is one of the principal ingredients; so is it the principal ingredient in the formation of every fibre, out of the crude sap drawn from the roots by the leaves. Of the whole amount of sap absorbed by the roots, a very small portion is appropriated to the tree, and when we consider, that in a short time, a tree will absorb by its roots three or four times its own weight of water, we will have some faint idea of the large quantity that it must get rid of by exhalation and other means, before the fluid can be concentrated to that degree in which it is converted to solid matter by the addition of carbon, under the influence of light.

Woody fibre contains about 50 per cent. of carbon. The gum is chiefly composed of hydrogen and oxygen, in the proportions which constitute water, and doubtless the small quantity of carbon contained in it, though insufficient for its conversion into wood, is nevertheless sufficient to preserve it in a gelatinous state. It is evident that this gum must undergo a great change before it could be converted into woody fibre, and, though I have minutely examined it in this respect, I have never seen the slightest appearance or approach to the cellular formation of organized tissue, whereas if the viscid substance termed *cambium* which is prepared by the leaves, to form the new layer of wood, be drawn off from the stem, it not only shows a tendency among its particles to arrange themselves in the form of cells and vessels, but frequently does so, forming by this kind of coagulation as perfect tissue as that formed in the interior of the stem, as may frequently be seen in nodules and hard concretions on the stems and branches of various

kinds of trees. These knots or excrescences are undoubtedly accumulations of cambium, which become transformed into wood, as in ordinary circumstances. Had it been imperfectly elaborated sap, it would have been thrown off by extravasation or other means, from the tree. These knotty excrescences possess all the powers and properties of perfect buds and branches, and in Italy they are frequently found upon the olive trees, are employed for the purposes of propagation, and it appears, when cut from the tree, with a portion of the bark adhering to them, they very readily grow into young olive trees.

Although the theory of DECANDOLLE, regarding the excretory power of plants, has been rejected by many eminent physiologists, there are, nevertheless, some strong facts springing out of this inquiry, that lead to the belief that this power is possessed by them in a very extraordinary degree. I would not assert that plants do not possess the power of discrimination, to a certain extent, although we know that plants absorb solutions which speedily cause their death, and which the roots appear to have no power of rejecting, from which many physiologists conclude that plants possess no definite power of selection. Their absorptive power may, however, be antagonized by their excretory power, for it is well

known that they have the power of selecting from their juices as it passes through their vascular system, such portions as are likely to nourish them, and of rejecting from their roots and otherwise, *when the sap descends*, such portions as are unfit to contribute to their support, or would be injurious to them if not rejected from their system.

My investigations, therefore, drive me irresistibly to the conclusion, that the accumulations of gum on Peach and other stone-fruit trees, is superfluous matter, rejected by the tree, and which is necessary to its welfare to do so, and instead of being injurious, is beneficial. It is never found except where there is a puncture or laceration of the bark, hence it takes the first medium of egress; when such channels of outlet do not exist, it is no doubt ejected by the roots.

If I am correct in my premises, gumming is no injury to the tree, but the contusions from which it flows may be by the ingress of air, and harboring the larvæ of insects. When the gum, therefore, is scraped off, the wound should be plastered over with some plastic substance. I am making further investigations on this subject, and will give you a further account of them when they are completed. Respectfully yours. A SUBSCRIBER.

Boston, Oct., 1850.

A NOTE ON THE DIANA GRAPE.

BY N. LONGWORTH, CINCINNATI, OHIO.

MR. DOWNING—Hearing the Diana grape much lauded at the East, I obtained grafts last spring, and have them growing. Being a seedling from the Catawba, I wanted faith in the reports of its superiority to the parent; for all our seedlings of the Catawba have fallen back nearer to its old grandfather, the common Fox grape. Among our seedlings, we have two white ones. I obtained by Express

yesterday, from Boston, some bunches of the Diana grape, and sent for our fruit committee, and some of our best horticulturists. I laid before them the Diana grape, and a bunch of the Catawba, not fully ripened, and selected on that account. I requested the gentlemen to taste the two parcels, and decide if both were the same grape—if not, which was the better grape. I kept them unadvised of the name and

origin of the Diana. Twenty persons were in attendance at the same time, and double that number during the day. Each individual decided the Diana as bearing no comparison with the Catawba. Skin thicker, pulp harder, and more acid, and more of the flavour and aroma of the Fox. To give the horticulturists of Boston, a chance of testing the question, I yesterday sent by Express, a ripe bunch of our Catawba, and one not fully ripe, with a few other bunches of our native grapes.

One of the persons present had formed so favourable an opinion of the Diana grape, from report, that he had offered \$15 for a root. I deem it important that the quality of any new fruit, should be made known as speedily as possible, to save to our fruit-growers time and expense. I am clearly of opinion, that none of our fine native grapes will succeed in New England. I had two varieties of the native grapes sent me from Connecticut—the one, called the Olmstead; it is one of the commonest of the Fox family; the other, the Charter Oak, all Fox of monstrous size, but its only value would be for *cannon balls*, should the South carry disunion so far as to lead to bloodshed. I have a graft growing, and shall plant some of the seed, expecting such an event. I am desirous of seeing seedlings raised from our best native grapes, that are not derived from the Fox. I would particularly recommend the Herbemont for this purpose. It is very hardy; more vigorous in its growth than any other vine. I shall, next season, endeavor to grow a shoot 50 feet long. The bunch is larger than Miller's Burgundy—the grape larger, and much finer, as a table grape. I deem the wine superior to the Spanish Mansienella; it has the same aroma and flavor. Yours, with regard.

N. LONGWORTH.

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REMARKS.—We beg to add to "all our fruit-growers," who might think Mr. LONG-

WORTH'S impressions regarding the Diana grape a "settler," that there is one or two important points to be taken into consideration.

In the first place we never tasted a *ripe* Catawba or Isabella in New England. We do not mean to say that in very favorable circumstances they may not ripen there, but that generally speaking they never attain there what would be called maturity in the middle States. In the next place it is well known that though the Diana originated years ago near Boston, it attracted no attention there until the variety was planted and began to mature fruit on the banks of the Hudson. Consequently to take the fruit of either the Diana or the Catawba from Boston, where the peach rarely ripens well, to Cincinnati—a wine-making country, with a month more summer—is like comparing fruit when it begins to change color, with the same sort when at its most perfect maturity. Specimens of the Diana from Boston were tasted by us at the Congress of Fruit-growers last autumn, in New-York, and fell as far short of the flavor of those ripened on the Hudson, as those sent to Cincinnati did below the flavor of the Ohio Catawba,—because they wanted two weeks more sun to ripen them. When the Diana ripens in Ohio, then, and then only, will our friends at Cincinnati be able to judge fairly of it. We have had the best possible opportunity of judging of the comparative merits of those two native grapes, in the garden of our neighbor, Mr. SARGENT, where there are 6-year old vines (Catawba and Diana) growing on a trellis, side by side. We therefore repeat, what we have before said, that the Diana is a seedling of the Catawba, resembling the Catawba in many respects—but earlier, handsomer, and of superior quality for the table. It is *not* a Black Hamburg nor a Rose Chasselas, and is not worth "\$15 a root," but it is an improvement on the Catawba, and, in a grape climate like the middle States, a decided acquisition. ED.

REVIEW.

RURAL HOURS: By A LADY. (One vol., 12mo., 521 pages; published by GEO. P. PUTNAM, New-York.)

THE present generation of young readers is almost buried under the avalanche of modern fiction, which our publishers, roaming about for exciting tales and novels, like buccaneers among the high seas, have captured and let loose upon the country. EUGENE SUE and DUMAS have shaken even the far west more than the fever and ague; and it is doubtful if THACKERAY and JAMES, taken in such large doses as they have been for some time past, have not produced a species of jaundice and dyspepsia.

Society and nature were both intended for the education of man. If he will only have lessons from the first, he is sure to grow heart sick sooner or later, and, like SOLOMON, cry out "all is vanity." If he lives wholly upon nature, he will become an anchorite or a dreamer; or, what is worse, his eyes may gradually close up (like those of the sightless fish in the Mammoth Cave,) to the great relations and duties of man as a social being.

Novels and tales—especially those of a healthier cast than the bulk of those alluded to—have their uses—very valuable ones, too—of teaching men human nature, and the workings of many problems of society; and we are not among those who think only true stories—meaning thereby histories, often full of falsities—should be put into the circulating libraries. HANS ANDERSON'S story books, and Miss BREMER'S novels, have more healthful truth in them than is contained in many of the most veracious volumes ever written; and we have been forced to swallow a good

deal of French sauce lately, as a (needless) accompaniment to the wholesome viands that have come across the water to us by the same vessels.

The misfortune for us has been, that almost all the literature of the day puts us in contact with man, while little or none of it brings us in relation with nature. It is a continual drinking of stimulating beverages, which undoubtedly enlarges our conceptions, and vivifies our understanding, but leaves us forever excited, and forever asking for more. The true balance can only be restored by something that takes us by the hand and leads us back occasionally to nature. It is only from her, and the good teachings that should go with her, that we shall regain that serenity and peace of mind, which we have lost in the constant movement of the complex wheelwork of the social machine. Hence, the natural desire of citizens for the country, of the poet for the solitude of mountains, and the man of science for the hidden secrets of earth, air and sea.

We welcome Miss COOPER'S "Rural Hours," therefore, as we would welcome a clear spring of sweet water, gushing out of a cool mossy bank, after a dusty day's travel. What deep and pure draughts of simple rustic enjoyments one drinks from its pages. What a healthy spirit, like a soft but fresh breeze, breathes through its characters. What a feeling of serenity and peace of mind, like the calm of an October day, pervades it. Here is the exact counterpoise which so many of our young people need for their overexerted imaginations. Here is a natural spring of sweet water, which, if they will only live in the country and drink daily, is sure to react

upon their jaded spirits—jaded with the one-sided culture of society or society novels.

“What,” exclaims some of our readers, “do you find all this in a book that is only a diary of ordinary country life? A book that gives an account of a walk in the woods, of maple trees, squirrels, crickets and swallows? A book without a story—which begins with a snowstorm, and ends with a sunset?”

Yes, you are quite right. There is no story, but the story of the earth—the oldest of all story books—and no incidents but the incidents of nature—God’s incidents. But do you think such incidents too trifling and commonplace for your attention? Do you think it pleasant or wise to live three score years in a world so full of curious and wonderful facts, that great and learned men have spent ages in diving but a little way into them, and never recognise their existence? Is it of no consequence that you do not know, even by name, the trees and flowers, the birds and animated nature, the rocks and stones under your feet? Ah! believe us, there is a great heart in the bosom of nature, which you may hear beat if you will only confidingly and trustingly woo her daily in her secret haunts. Yes, you may fall in love with nature; and it is a passion that grows—not weakens—by enjoyment; a feeling that calms—not excites—the soul; a sentiment that always ennobles, and never degrades the heart.

We welcome Miss COOPER’s volume, also, because it proves to us that time and culture will develop in our fair countrywomen that fondness for nature, and that nice observation of it, which are among the rarest and best traits of national character; traits, we may add, which one only sees in the Anglo-Saxon and northern nations.

Women, in the country, must have some objects of interest beyond their ordinary household cares and joys. If they love coun-

try life, rural pleasures, nature, then comes a national character, based upon pure and wholesome tastes. If they care only for social enjoyments, and look upon occasional solitude as something absolutely stifling or barren, then arises a feverish appetite for cities, and the life of crowds. And who does not know that in all countries, it is the taste of the mother, the wife, the daughter, which educates and approves, and fixes, the tastes and habits of the people? It pleases us better then, we repeat, to see this first proof of an intelligent, genuine, feminine fondness for nature and rural life, than to see the advent of a great sculptor or painter. Heaven vouchsafes to every nation, sooner or later, a few great warriors and men of genius; but not to every one a national character, which takes root in the soil.

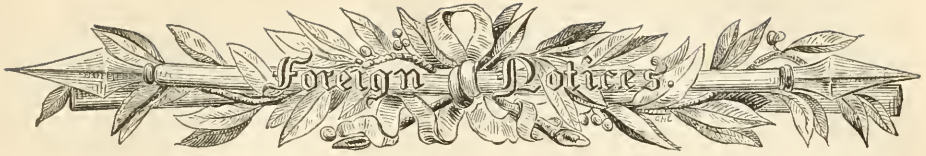
It is a little singular, that although almost all children love rural life and the wild woods, the instinct for these things so often vanishes in the mature mind, that it seems almost a cultivated taste when we find it strong in a person of ripe years. Business and pleasure vitiate the appetite for nature, but do not destroy it; and a little patient attention to her will win back her friendship. If, therefore, any of our readers find such a volume as the *Rural Hours* uninteresting, let them believe that the fault is in themselves, and not in the subject, or the method in which it is treated. It is not a volume to while away a journey, or to take into the rail-cars, but one for a solitary walk in the fields, or a rainy day by the fireside. As a pleasant companion, to open the eyes of the blind to the beauty and interest of simple country life, it is a real treasure. It is as full of instruction, too, as a volume of natural history, with the advantage of telling a novice no more than he can easily comprehend, and frightening him with no needless scientific names and technicalities. It is thoroughly national, and is perhaps the only

book yet written by which a foreigner could become really familiar with the physiognomy of American scenery, and the habits of our country life. Beginning with spring, it carries us through the seasons with all the interest and meaning of their changes, and all the features, and most of the events, of sylvan and pastoral life under their influence. And though there is no story, (perhaps one slightly interwoven might have helped the popularity,) there are bits of poetry, philosophy, and domestic economy so charmingly interspersed that one lays the work down with a feeling of absolute and intimate friendship for the author.

We had marked several passages, but find we have only room for one. It contains a few thoughts, suggested by a view seen from the top of a height, reached in a summer's drive, and may be taken as an average specimen of the simple earnestness of Miss COOPER's style:

"From the most elevated point crossed by the road we looked over two different valleys, with their several groups of broad hills, and many a swelling knoll. Looking down from a commanding position upon a mountainous country, or looking upward at the same objects, leave very different impressions on the mind. From below we see a group of mountains as pictures in one aspect only, but looking abroad over their massive

forms from an adjoining height, we comprehend them much more justly; we feel more readily how much they add to the grandeur of the earth we live on, how much they increase her extent, how greatly they vary her character, climates, and productions. Perhaps the noble calm of these mountain piles will be more impressive from below; but when we behold them from a higher point, blended with this majestic quiet, traces of past action and movement are observed, and what we now behold seems the repose of power and strength after a great conflict. The most lifeless and sterile mountain on earth, with the unbroken sleep of ages brooding over its solitudes, still bears on its silent head the emotion of a mighty passion. It is upon the brow of man that are stamped the lines worn by the care and sorrow of a lifetime; and we behold upon the ancient mountains, with a feeling of awe, the record of earth's stormy history. There are scars and furrows upon the giant Alps unsoftened by the beaming sunlight of five thousand summers, over which the heavens have wept in vain for ages, which are uneffaced by all the influences at the command of Time. This character of former action adds inconceivably to the grandeur of the mountains connecting them as it does with the mystery of the past; upon a plain we are more apt to see the present only; the mental vision seems confined to the level uniformity about it; we need some ancient work of man, some dim old history, to lead the mind backward; and this is one reason why a monument always strikes us more forcibly upon a plain, or on level ground; in such a position it fills the mind more with itself and its own associations. But without a history, without a monument, there is that upon the face of the mountains which, from the earliest ages, has led man to hail them as the 'everlasting hills.'"



MEDICINAL EFFECTS OF HARD WATER.—Water, every one knows, is a necessary of life, and the knowledge is as general that hard water is very disagreeable when employed for washing, but not one of our readers, probably, ever minutely examined the consequences of using this hard water for drinking, cooking, and other household purposes. It is one of those occurrences of every day life which we meet with, deprecate, and submit to; we grumble, but are not sufficiently aroused to make an effort to remove the evil. We would earnestly endeavor to dispel this apathy, for the consequences are largely, very largely, injurious to the health and the purses of those who thus submit; and we do so the more confidently, because our attention has been recalled to the subject by a most interesting *Report by the General Board of Health on the Supply of Water to the Metropolis*. A report drawn up chiefly by Mr. Chadwick, and which is only equally creditable with other similar documents, indicative of his ability and judgment.

Now, with regard to the influence of hard water upon the health, it appears from the universal testimony of medical men from Hippocrates down to the day on which we are writing, that it has a tendency to constipate the bowels of the drinker. "Hard water," says Dr. Todd Thompson, "under whatever name found, should be excluded." Dr. Sutherland says:—

"Having lived for a number of years in Liverpool, a town which has a supply of very hard water for domestic use, my attention has for a length of time been called to the fact, that the continued use of this water has a somewhat peculiar effect on the digestive functions in certain susceptible constitutions. There are so many local causes of disease in the town, which may be left behind by going to other more favorable localities, that it is not very easy to state positively how much injury may be done by the quality of the water alone, but after some experience and observation, both in myself and others, I arrived at conclusions which I frequently expressed several years ago, and which nothing has since occurred to alter, and these are, that in the class of constitutions referred to, the hard water tends to produce visceral obstructions; that it diminishes the natural secretions, produces a constipated or irregular state of the bowels, and consequently deranges the health. I have repeatedly known these complaints to vanish on leaving the town, and to reappear immediately on returning to it,

and it was such repeated occurrences which fixed my attention on the hard selenitic water of the new red sandstone as the probable cause, as I believe it to be, of these affections."

In these opinions he is sustained by the testimony of Drs. Heberden, Paton of Paisley, Leech and Cunningham of Glasgow, Wolstenholme of Bolton, and many others.

Dr. Playfair enforces his conviction that hard water is injurious to human beings, by referring to its effect upon animals. He observes that—

"Horses have an instinctive love for soft water, and refuse hard water if they can possibly get the former. Hard water produces a rough and staring coat on horses, and renders them liable to gripes. Pigeons also refuse hard water if they obtain access to soft. Clegghorn states, that hard water in Minorea causes diseases in the system of certain animals, especially of sheep. So much are race-horses influenced by the quality of the water, that it is not unfrequent to carry a supply of soft water to the locality in which the race is to take place, lest, there being only hard water, the horses should lose condition. Mr. Youatt, in his book called 'The Horse,' remarking upon the desirableness of soft water for the horse, says, 'Instinct or experience has made the horse himself conscious of this, for he will never drink hard water if he has access to soft; he will leave the most transparent water of the well for a river, although the water may be turbid, and even for the muddiest pool.' And again, in another place, he says, 'Hard water drawn fresh from the well will assuredly make the coat of a horse unaccustomed to it stare, and will not unfrequently gripe or further injure him.'"

To sum up the whole, there is no doubt with medical men that health is promoted by employing—and that for invalids one great aid to recovery is by the use of—"the softest, lightest, and purest of water." Every one has heard of the sick and the weakly resorting to Malvern to drink its renovating waters, and our readers will be startled, and feel more forcibly what has been said, when we add, from the report before us, that "at Malvern the spring water in the highest reputation for medicinal quality, is a *water only remarkable for its purity*." *Cottage Gardener*.

REFORM IN NOMENCLATURE.—If a man talks of VIRGILIUS, or HORATIUS, or JUVENALIS, he is set down in Scotland as a Dominic, and in England as an ass. Yet the naturalist who dares to speak

of *Clianth* and *Oncid*, instead of *Clianthus* and *Oncidium*, is regarded as a troublesome innovator; and if he ventures somewhat further, and prefers *Birthwort* to *Aristolochia*, *Tangle* to *Fucus*, or *Liverwort* to *Marchantia*, he may expect to take rank as a scientific Chartist. Nevertheless, the very persons who condemn such modes of speaking would be the first to exclaim against calling *Viburnum opulus* by any other name than *Guel-dres Rose*, or *Galanthus nivalis* otherwise than *Snowdrop*.

How is it that the practice of pedantry among scholars is admitted on all hands to be an offence against good taste, and that the absence of it among naturalists is also looked upon as an offence against good taste? Why do men thus blow hot and cold with the same breath? How is it that scholars who understand Greek and Latin, drop those languages in English composition, and that naturalists require persons who know nothing of such tongues to be always making grotesque efforts at talking them? This seems to deserve some examination on the part of those who think that natural history should be made interesting to all classes, and identified with their familiar thoughts, a result that will never be arrived at so long as the nomenclature of organized bodies is a chaos of Greek and Latin compounds, whether barbarous or formed upon the soundest principles.

It may be alleged that the practice of adapting classical names to the English tongue is not universal; and that, if we have pruned *VIRGILIUS* and *OVIDIUS* down to *VIRGIL* and *OVID*, we have left *CORNELIUS NEPOS* and *QUINTUS CURTIUS* in their ancient shape. Why this has happened we know not. Possibly because these names are much less used in conversation than the others, for *CORNEL* sounds as well as *VIRGIL*, and would arise out of an application of the same process of curtailment; nor do we see why *QUINTIN CURT* should be excluded from the language which recognises *QUINTIN DICK*. At any rate, among the best authorities, the practice has gone much further than is suspected; in proof of which we have only to refer to the words *Cynosure*, *Zephyr*, *Ethiop*, *Arcady*, employed by *MILTON* and others, or to such names as *CEPHISE*, *HIPPOLYT*, *ÆSCULAPE*, *DIAN*, *CAMILL*, and *HYACINCT*, which are familiar to all readers of *SPENCER*.

Our good old Saxon tongue consists mainly of words of one or two syllables; and it will always be found that the purest and best English writers shunned long words taken from Greek and Latin. The sonorous but corrupt style of some of our great authors introduced, indeed, a great change in this respect. With them language was—

"English cut on Greek and Latin,
Like fustian heretofore on satin."

But scholars happily saw the evil of this, and hence the sesquipedalian style has made no progress. Had it been otherwise, we should by this time, like the Germans, have excited the astonish-

ment of the world by words extending across a page. Does any one imagine that our forefathers would have kept even *Quercus* in their vocabulary, if they had not possessed its equivalent in *Ae* or *Oak*; undoubtedly they would have cut it down to *Quer* in spite of the lawyers. And, in like manner, *Fagus* would have become *Fage*, or *Fege*, or *Phege*; but they seem to have found a substitute in *Beech*.

The universal practice of society is to expel technical words from familiar language, wherever it is possible to do so. A naturalist would be laughed at who talked of a *Rana temporaria*, meaning a frog, or of *Curruca Luscinia*, meaning nightingale, or of *Falco fulvus*, or *Aquila chrysaetos*, meaning a golden eagle. Would anything be more preposterous than to call *KEENS'* Seedling Strawberry, *Fragaria virginiana*, or Sweet Vernal Grass and Coeksfoot, *Anthoxanthum odoratum* and *Dactylis glomerata*? It is only necessary to allude to such cases to show their extreme absurdity.

The truth is, that all nations like to speak their own language, if they can, and to fashion foreign words to the shape of their own organs of speech as nearly as they find possible; and hence we English have changed *TAILLEBOIS* into *TALBOT*, *cinqfeuille* into *cinqfoil*, and so on. And we cannot but think that those who have kept this in view in modifying the foreign names current in natural history, have acted upon a principle, the soundness of which cannot be well disputed. It does not, however, follow that the principle has been judiciously applied. On the contrary, it must be conceded that an error has been committed—that error is translation instead of adaptation. A better course would have been adaptation to the exclusion of translation. The best course is the skilful mixture of the two.

The objection to translated names consists in this—that the naturalist who uses them has to burthen his memory with two names instead of one—the vernacular and the technical. And this we take to be the true and only valid objection to translated names, provided the translation is made on correct principles. It must we think be admitted that *Toothtongue* is more conformable to the English language than *Odontoglossum*, and *Cutridge* than *Acrotamnus*. Nor is there anything in such names at variance with the usual construction of English compounds. Objections to them on such a ground are only prejudices. The great fault in *Toothtongue* and *Cutridge* is—not that they are badly constructed words but—that they compel the naturalist to recollect them, in addition to *Odontoglossum* and *Acrotamnus*, which are indispensable. Science requires a universal nomenclature, suitable to all countries, and that must be preserved, in addition to any local nomenclature.

We freely admit the force of this objection, and for this reason, but for no other, willingly advise

the abandonment of further attempts at translated words—unless in cases where the English equivalent is in general use, as in Birthwort for *Aristolochia*, or Daisy for *Bellis*, or where the technical word is not susceptible of adaptation. We would therefore rest content with *Dendrobe* for *Dendrobium*, *Camarote* for *Camarotis*, and *Acroteme* for *Acrotemnus*. But there is an abundance of cases in which adaptation is impracticable. We may legitimately curtail *Odontoglossum* into *Odontoglot* and *Ionopsisidium* into *Ionopsisid*; but what is to be done with names like *Hypoelytrum*, *Holmskioldia*, *Lusuriaga* or *Ornithocephalus*? No art can Anglicise them. They must be translated, or changed, or left in their original deformity. This question however need not be raised just now, because they are either of rare occurrence or confined to technical science.

We own that this question appears to be one of much public interest; and we shall gladly publish any adverse views with which our correspondents may favor us. We shall scarcely be suspected of writing to embarrass science. Our real purpose is to make it easy and popular; and we firmly believe that if natural history is not to be locked up in the cabinets of *virtuosi* its language must be made as familiar as household words. In saying this we believe that we express the opinion of a vast majority of all classes of society; an opinion in which we are the more confirmed from seeing that a large number of adopted words have already established themselves securely in common language within these few years. *Dr. Lindley.*

THE CHRYSANTHEMUM.—In the following remarks respecting Chrysanthemums, I shall chiefly confine myself to the mode of cultivating them in pots. As soon as the plants have done flowering, I cut them down, and place them in any convenient corner on the south side of a wall, where they are in some measure sheltered from the frost and north-easterly winds. They remain in this situation undisturbed, except by watering them now and then, until the end of March, when they are removed to a more open place, preparatory to their being wanted for the purpose of propagation. Chrysanthemums may be increased by cuttings, layers, and offsets; I have often grown them from the latter; but I have found the foliage so apt to go off them, and leave the plants naked at the bottom, that I greatly prefer cuttings, which, with good treatment, will retain their foliage green and healthy almost to the rims of the pots. The best time for putting in cuttings is the latter end of April, or the beginning of May. I use the points of the best shoots of the current year's wood, not more than two or three inches in length, cutting them close to a joint, and removing the bottom leaves. When potted, I transfer them to a close frame; and if it is convenient, I assist their striking by means of a gentle bottom-heat, but this is not absolutely necessary, for they strike readily

without it. I shade for a few hours in the day-time, until they have taken root, when I give them plenty of air, and pinch out their tops, which causes them to break freely. When the shoots have grown an inch or two in length, I pot into large sixties, in a mixture of turfy loam and one-third rotten dung, selecting the strongest and bushiest plants, and discarding the rest. When potted, I again place them in a close frame, and shade a little until they have made fresh roots. They are afterwards set out of doors, sufficiently far apart to prevent their being drawn, and kept well supplied with water. When the shoots have grown three or four inches in length, I again pinch out their tops, in order to make them bushy; and after they have grown an inch in length, I shift the plants into 6-inch pots, placing them again in their former situation; and when they have filled the pots well with roots, I re-pot them into 9-inch pots, in which I flower them, using the same compost as before. I now place them thinly in a nice open place, where they have a free circulation of air: this keeps them dwarf and healthy. I keep the pots clear of weeds and suckers; water them as often as they require it; and when they have fairly set their flower-buds, I give them some good clear manure-water twice a week, or more or less according to the state of the weather. About the beginning of October, I remove some of the most forward plants under glass, giving them plenty of air during the day. The others are taken in as they are required, or as the weather may render necessary; for though hardy the Chrysanthemum will not stand more than 4° or 5° of frost, without sustaining some injury. I bloom here every year about 150 plants, varying from one to two feet high, and having from twenty-five to thirty full-blown flowers on each plant, many of which do not require a single stake to support them.

It may be worth while to remark that, if some of the most promising shoots of out-door plants are layered in the beginning of September, by giving them a twist, and pegging them down a few inches below the surface of the ground, so as to make young plants about ten inches high, they will be well rooted in three weeks, *i. e.* if they are kept watered. When rooted, they may be taken up and potted in 6-inch pots, and placed in a close frame for a few days, while they make fresh roots; afterwards they should have plenty of air. Plants managed in this way are very suitable for the front shelves of the stage, or for mixing with other plants.

The earliest and best flowering of the plants I take cuttings from, are selected and planted in any vacant places in the shrubberies, all the shoots being first shortened back to within six inches of the pot. This causes them to make more shoots, which are again stopped, thus keeping the plants dwarf and in due bounds, and inducing them to bloom at a season when few flowers adorn the garden. *Beck's Florist.*

HARDY HERBACEOUS PLANTS.—The system of filling a whole bed with plants of one sort, which is now so much practiced, has had the effect of withdrawing attention, in a great measure, from this very interesting class of flowers; and yet upon these the beauty of our flower gardens mainly depended only a few years ago. Some of the kinds which bloom first in spring have already been noticed, and we shall now mention a few other desirable species, with the view of recalling them to recollection. It may be premised that the plants in the following list are unsuitable for planting in masses; their proper place is in those beds of mixed flowers which are still occasionally seen, bordering the principal walks, or placed here and there in conspicuous situations, in some pleasure grounds. One advantage attached to this class of plants is, the small amount of skill or of labor required in their cultivation. Once planted in suitable soil, that is, common garden ground, moderately enriched with manure, many of them will grow and bloom for years, with little care beyond the thinning and tying of the stems, and an occasional reduction of size when the root stock has become overgrown. But there are some species which demand a little more attention in return for the gratification they give us, and one of these is *Lychnis fulgens*, the roots of which frequently perish when exposed to wet and cold during winter; it is therefore necessary to raise young plants from seed every spring, when this species is treated as an ordinary herbaceous plant; but its splendid scarlet colour entitles it to be cultivated in pots, in the same way as the better known *L. coronata*. In height it seldom exceeds $1\frac{1}{2}$ or 2 feet, and as it does not produce numerous flower stems, a better effect would be obtained by setting three or four plants in a patch. The double flowered variety of the common scarlet *Lychnis* (*L. chalcedonica*) is now seldom seen, although very handsome; so likewise is the double clammy *Lychnis* (*L. viscaria*), and the double Cuckoo-flower (*L. Floscuculi*). The genus *Delphinium* (Larkspur) contains many showy species, among which *azureum* (light blue,) *mesoleucum* (dark blue, with white centre,) and *elatum* (dark blue,) are suitable for the middle of large clumps or the back part of borders, as they all grow 5 to 6 feet high. Of the shorter species, *grandiflorum* is one of the handsomest, and when propagated from seed several varieties may be obtained, varying in colour between dark blue and white; and occasionally a plant having double blossoms will appear among the seedlings. The beautiful double kind commonly known as *grandiflorum* appears to belong to a different species. Another taller growing double sort is called *Barlowii*, and this also is very handsome. All these are usually in bloom about mid-summer. Several of the herbaceous *Ranunculaceae* have varieties with double flowers, which are very desirable things. One with bright yellow button-like blossoms is proba-

bly a variety of *Ranunculus acris*; this grows about 2 feet high, and is in the height of its beauty in June. Another having very pretty white flowers is rather dwarfer in habit; this by some botanists is referred to *R. aconitifolius*. Allied to these is *Caltha palustris*, a marsh plant with large yellow flowers, of which a double variety, very suitable for moist places, is sometimes seen in gardens. The common Columbine is well known, and some of its varieties are equal in beauty to many flowers of far greater pretensions; but all are eclipsed by the handsome blue and white *Aquilegia glandulosa*, a species which ought to be in every flower garden. As a spurious sort is sometimes substituted, it may be as well to intimate that the true kind has been advertised in the *Gardeners' Chronicle*. In the genus *Campanula* there are so many fine things that it is difficult to make a selection. Among the most desirable, however, will be found *Persicifolia*, of which there are double and single varieties, both with white and with blue flowers; the double white Throatwort (*C. trachelium*), and the double white glomerata, all of which grow from 2 to 3 feet high. Taller kinds are *grandis* (blue,) *lactiflora* (milky white,) and *pyramidalis* (both white and blue varieties;) and of very dwarf sorts there are *pulla* (dark blue,) *pumila* (both blue and white,) *garganica* (blue,) and *fragilis* (blue.) A biennial species called the Canterbury Bell (*C. medium*) is also very ornamental. Seeds of this sown about Midsummer will furnish flowering plants for the following season, and amongst them there will probably be different shades of blue as well as white flowers. *C. nobilis* will be grown as a novelty rather than for effect, its large pendulous purplish flowers being too dull to be showy. *Wahlenbergia* (formerly *Campanula*) *grandiflora* is a beautiful thing, but very scarce; and *Symphiantha pendula*, another campanulaceous plant, with white blossoms and a dwarf, drooping habit, deserves cultivation. Pentstemons are all pretty, but unfortunately the best of them are the most tender. *Scouleri*, *venustus*, *glandulosus*, *ovatus*, and *speciosus*, have handsome blue flowers, especially the latter, which however, is so delicate, that, to have it in perfection, seedling plants should be grown in pots through the winter, and turned out in spring; treated thus, it makes a splendid bed. *Campanulatus* and *atropurpureus* differ chiefly in the colour of their dull purple flowers, the latter being the darkest. *Digitalis* is more robust, growing upwards of 3 feet high in good soil, and has white flowers. *Hesperis matronalis* (the Rocket) has two double varieties, one with white, and the other with purple flowers, which ought to be cultivated extensively, especially the white one. Being short-lived plants, a young stock must be kept up by putting in cuttings about mid-summer, after the bloom is over. *Hedysarum coronarium* (the French Honey-suckle) is one of the most showy of *Papilionaceae*.

ous plants, its deep-red flowers being produced in profusion in June and July. It is a biennial; therefore seed must be sown every year. *Catananche cœrulea* and *C. bicolor*, the first blue, and the second blue and white, are showy things, their sealy flowers bearing some resemblance to those of the Everlastings. These should be raised from seeds every spring, and treated as biennials. The common Everlasting Pea (*Lathyrus latifolius*), as well as its white variety, are very ornamental towards the end of summer, when carelessly trained upon a few rough sticks; so likewise is *L. grandiflorus*. *Ononis rotundifolia* is an exceedingly pretty thing, with its pale rose-coloured flowers and low bushy habit; and yet it is seldom seen, probably because it is short-lived, and therefore requires to be frequently renewed from seed. *Liatris spicata*, *scariosa*, and *elegans* produce their spikes of bluish flowers towards the end of summer and beginning of autumn, and are singular as well as pretty. *Dietamnus fraxinella* is a good old plant now neglected, perhaps because its flowers are not gaudy; and yet there is sufficient character about the plant to make it very interesting. This species is red; and there is another with white flowers, which appears to differ from it in little but colour. Of the perennial *Lupinus polyphyllus* is undoubtedly the handsomest, including, however, its white variety. *Grandifolius* has flowers of a singular dark dull blue, and *ornatus* is pale blue. By preventing the growth of seed-pods, the flowering season of these plants may be much prolonged. The Aster, in some form or other, is seen in most gardens, especially the tall late-flowering kinds commonly called *Michælnas* Daisies; there are, however, several species of lower growth, which ought never to be excluded from herbaceous beds; and of these *amelius*, *spectabilis*, *sibiricus*, and *alpinus*, have large showy blue flowers; while the smaller blossoms of *hyssopifolius* and *elegans* are produced in such profusion that they equal the best in effect. Numberless others, equally fine, might be added to the above list, if space permitted; these, however, will serve to form the nucleus of a good selection. *J. B. Whiting, in Beck's Florist and Garden Miscellany.*

EFFECTS OF LIGHTNING ON TREES.—At a recent meeting of the Botanical Society of Edinburgh, Mr. M'Nab, of the Royal Botanic Garden, made a communication on the effects of lightning on trees. He remarked:—"A few days ago I accidentally heard of a tree which had been struck by lightning on the 5th inst (June, 1850,) at Pitferrane, Fifeshire, the residence of Andrew Buchanan, Esq.; and, being anxious to ascertain the species, I wrote for a small branch, with any history which could be given regarding it. I have just received the leaves shown, which prove it to be the *Ulmus montana*, or Wych Elm. My object in bringing the notice before the society, is to ascertain from its members any varieties of

trees known to them as having been struck by the electric fluid. About this time last year a very large oak on the grounds of John Wauchope, Esq., of Edmonston, was shattered to pieces; and a few years previously a laburnum standing close to the oak was likewise destroyed. While on a tour over a portion of the American continent, some years ago, I had several opportunities of observing gigantic trees torn to pieces by electric influence. In every instance I observed they were oaks. During a thunder storm I found the workmen (chiefly in Canada,) resorting to the beech trees for protection, from an idea that they were not liable to be struck by lightning; certain it is, that I saw none, notwithstanding the prevalence of large sized beeches in many districts. The elm above alluded to at Pitferrane, had an iron fence standing close to it, which was supposed by the inhabitants to have had some influence in attracting the fluid. The above observations are thrown out, in the hope of ascertaining if there be anything in the composition of one species of tree rendering it less liable than another to electric influence." Several other members present at the meeting mentioned that the beech, the horse chestnut, and the ash, had all been struck by lightning. *Cottage Gardener.*

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PRIMEVAL VEGETATION.—The olive-leaf which the dove brought to Noah established at least three important facts, and indicated a few more. It showed most conclusively that there was dry land, that there were olive trees, and that the climate of the surrounding regions whatever change it might have undergone, was still favorable to the development of vegetable life; and, farther, it might be very safely inferred from it that, if olive trees had survived, other trees and plants must have survived also; and that the dark muddy prominences round which the ebbing currents were fast sweeping to lower levels, would soon present, as in antediluvian times, their coverings of cheerful green. The olive leaf spoke not of merely a partial, but of a general vegetation. Now the coniferous lignite of the lower old red sandstone we find charged, like the olive leaf, with a various and singularly interesting evidence. It is something to know that, in the times of the *Cocosteus* and *Asterolepis*, there existed dry land, and that that land wore, as at after periods, its soft, gay mantle of green. It is something also to know, that the verdant tint was not owing to a profuse development of the mere immaturities of the vegetable kingdom—crisp, slow-growing lichens, or watery spare-propagated fungi that shoot up to their full size in a night—nor even to an abundance of the more highly organized families of the liver-worts, and the mosses. These may have abounded then, as now; though we have not a shadow of evidence that they did. But while we have no proof whatever of their existence, we have conclusive proof that there existed

orders and families of a rank far above them. On the dry land of the lower old red sandstone, on which, according to the theory of Adolphe Brongniart, nothing higher than a lichen or a moss could have been expected, the ship-carpenter might have hopefully taken axe in hand, to explore the woods for some such stately pine as the one described by Milton:—

"Hewn on Norwegian hills, to be the mast
Of some great admiral."

—*Miller's Foot-prints of the Creator.*

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DIFFERENT BERRIES IN THE SAME BUNCH OF GRAPES.—In the autumn of 1846, I found, near Mersberg, bunches of grapes bearing, at the same time, on one side, white Burgundy, and on the other red Rüländer, or even red Rüländer and black Burgundy; the berries, therefore, were different in colour, size and flavor. The cause of this phenomenon was, that the three kinds of grape in question were planted side by side in continuous rows, so that the pollen might easily be carried from the flowers of one to the stigmas of the others. Among other circumstances which warrant this explanation is the fact, that sometimes half, sometimes a third, or even a quarter, of the berries of a bunch belonged to the different sorts, and that these occurred on that side of it next the plant of that kind.—*M. Jack, in The Flora.* [The same thing we have seen at Stradsett Park, Norfolk. A seedling vine raised there produces both black and white grapes on the same bunch; but they are worthless. It is, therefore, very doubtful whether the transmission of pollen had anything to do with the change of colour. *Gard. Magazine of Botany.*]

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CHINESE RICE-PAPER, OR BOK-SHUNG.—The substance commonly called Rice-paper by the Chinese, is made from the pith of a plant or tree, which grows principally in the swampy grounds in the province of Samsui, in the northern part of the island of Formosa, where it is said to form large forests. The bark and rind are, previous to exportation, stripped from the pith, which is then called *Bok-shung*. The iron knife used for cutting this pith weighs about two and a half pounds, and is of the roughest and coarsest workmanship. In cutting, the knife is kept quite steady, the cylindrical pith being moved round and round against the edge of the knife, which is just inserted into the substance, and thus a leaf or sheet is formed resembling the most delicate paper, but rather thick in substance. When brought quickly from the workman's hands, the paper is in a damp state. It may have been rendered so in order to facilitate the smoothing and pressing. It is said that there is a neat method of joining this paper when broken, and that it is chiefly made from the smaller pieces of the *Bok-shung*, and that the larger pieces are used in medicine in the same way as Epsom salts. It is vain to conjecture,

from the pith alone, to what plant or tree this exquisitely beautiful substance belongs. The vulgar opinion still generally prevails, that because it bears the name of rice-paper, it is manufactured from rice; but the slightest inspection with a microscope exhibits the exquisitely delicate medullary portion of a dicotyledonous stem. Again, from an affinity with the well-known *Shola* of the East Indies, (of which floats and buoys for fishermen, and the very light hats of Singapore are made,) many have supposed, and even Chinese travellers have declared, that Rice-paper is made from this, the *Æschynomene paludosa*; but a comparison of the two will clearly show the difference. Both are light and spongy, but the *Shola* is far less delicate than the *Bok-shung*. A Chinese drawing of what is said to be the *Rice-paper plant* is in possession of Dr. Lindley, but neither flower nor fruit is represented. Some have conjectured this to be a malvaceous plant, others araliaceous. We have seen in the branches of the common fig (*Ficus carica*) a copious medulla, very much resembling, in its texture and pure whiteness, that of the *Bok-shung*. *Hooker's Journal of Botany.*

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GROMIER DU CANTAL GRAPE.—At the present day, the vine is distributed very extensively over the globe, in countries where the mean summer temperature reaches 67 degrees Fahrenheit. The limit to which the culture of the vine extends in France, forms an oblique line, which, beginning at the coast above Nantes, passes a little beyond Paris, Laissans, and the confluent of the Moselle and the Rhine. Beyond this line the vine does not ripen its fruit in the open ground, and can only be grown in a vinery, or, in favored situations, on espaliers, a method of growing it which is only applicable to some varieties, such as furnish what are called dessert grapes, (*Raisins de table*.) Among the varieties raised from the vine since its introduction to Europe, and the number of which, according to M. Odart, may be upwards of a thousand, nearly sixty produce very good dessert grapes. The *Gromier du Cantal* is one of the best quality in this class. Unfortunately, when the northern limits of the vine are approached, its culture presents considerable difficulty. Even at Paris it is not readily propagated, or transplanted, and must be treated with much skill and care. Notwithstanding this fact, the *Gromier du Cantal* may be almost considered as an exception; for, round Paris, it is found to ripen its fruit, even in the most exposed situation. The bunches are irregular, and measure from ten to twelve inches in breadth, weighing about three pounds. The berry is large, round, and of a rose colour; the skin is thickish and the flesh firm, and very agreeably flavored. *Revue Horticole.*

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DEODAR CEDAR.—The Deodar Cedar (*C. Deodara*.) is found on the Himalayas at an elevation

of from 7,000 to 12,000 feet; and, as it is now becoming well known in this country, it is almost superfluous to remark that it is, perhaps, the most ornamental coniferous tree ever introduced, and that, from its great beauty, rapid growth, perfect hardiness, and valuable timber, it is exceedingly well suited for being extensively planted in woods, parks, and pleasure grounds. Dr. Falconer gives the dimensions of a fallen Deodar which he saw on the Himalayas, as thirty-six feet in circumference at the base, and one hundred and thirty feet in length. The same authority states that timber of the Deodar, taken from a temple supposed to have existed at least 1000 years, was, to all appearance, as sound as when first placed there, not affording a dwelling to even a solitary insect. Burnes, in his *Travels in the Mysore*, states that, "the frameworks of the houses are made of Deodar Cedar, which is floated down with the inundations of the river Schem, or Hydaspes, from the Himalaya. The durability and fragrance of the wood," he adds, "recommend it for buildings of every description." He further observes that he saw a "cedar tree lying on the banks of the Hydaspes, with a diameter of thirteen feet. On this river," he continues, "the Macedonians constructed the fleet by which they navigated the Indus; and it is a remarkable fact, that in none of the Punjanb rivers are such trees floated down, nor do there exist anywhere else such facilities for the construction of vessels." Bishop Heber, in a letter to Lord Grenville, alludes to a pine, evidently the C. Deodara, as "a splendid tree, with gigantic arms and narrow dark leaves, which is accounted sacred, and chiefly seen in the neighborhood of ancient Hindoo temples." The Deodar and the *Araucaria imbricata* are fine illustrations of two opposite styles of beauty in landscape: the Deodar being of a growth and hue, light, airy, and graceful, and the *Araucaria* being dark, rich and massive. The Deodar Cedar is particularly valuable for planting singly on lawns, and as an avenue tree. For the latter purpose, it probably surpasses any other that has yet been introduced. The wood of the Deodar, Mr. Loudon remarks in his *Arboretum Britannicum*, "has a remarkably fine close grain, capable of receiving a very high polish; so much so, indeed, that a table formed of the section of a trunk nearly four feet in diameter, sent by Dr. Wallich to the late Mr. Lambert, has been compared to a slab of brown agate." It is also

stated that the wood of the Deodar has been found perfectly sound in places where it has been known to have stood upwards of 200 years. The Deodar, like the Cedar of Lebanon, will grow in almost any soil and situation. That it is, indeed, admirably adapted for planting in all parts of this country, is amply proved by the noble specimens which are to be seen growing so luxuriantly in the Royal Botanic garden at Kew, and in the Garden of the Horticultural Society of London at Chiswick, as well as at the country seats of many distinguished amateurs of gardening, and more particularly at Elvaston Castle, Dropmore, Panshanger, and Heckfield Place. It is, therefore, to be hoped that our large landed proprietors may be induced to recognise the beauty and value of this, perhaps, best of trees; and that the day is not far distant when our hill sides will be covered with it and other exotic conifers, the great beauty of which will produce a most pleasing and an important change in the landscape scenery of Great Britain. *Knight's Synopsis*.

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PROLONGATION OF BLOOM.—Very lately we have seen an instance of Dahlias being preserved from early frosts, which we consider worth notice. They were chiefly of the fancy varieties, and were growing in a bed upon the lawn of a flower garden. They had been pegged down whilst young, and kept so by repeated peggings, so that the highest plant did not exceed one and a half feet. The owner was desirous to prolong the bloom, and to do so, stuck in, all over the bed, some stout sticks, allowing them to stand up above the Dahlias from six to nine inches. Every evening when there was the least appearance of frost, the bed was covered over with garden mats, sewed together in two's and three's, removing them in the morning. By this slight protection they are yet in the greatest perfection, whilst all round the bed, such as were growing singly in the border and others in large masses, were all more or less injured and blackened with the frost. Such of our readers whose Dahlias may have as yet escaped from frost, would be wise, if possible, to try the above method; and the principle might be extended to Geraniums, Heliotropes, &c., with the best effects. The first of October is a good season to mark in a book, kept for that purpose, the kinds of Dahlias, their colours, heights, and other properties. *Cottage Gardener*.



FRONTISPIECE. PRIZE GERANIUM.—Few persons, who have not seen the great horticultural exhibitions of London, can form any just idea of the perfection to which the culture of plants in pots has been brought in modern times. A Geranium or Heath, as commonly seen in a pot, bears the same relation to the same plant, carefully grown for exhibition by the first rate plant grower, that the leanest and most starved *brindle* does to a slick and finely formed Short-Horn. The plant is in the first place perfect in its shape, and symmetrical in all its proportions; the foliage dense, and of a healthful colour and appearance, and the flowers are borne in such profusion, and are so finely formed, and clear and beautiful in colour, that you stand astonished at the wonderful achievement in the art of culture that stands before you.

To give some faint idea of the appearance of one of these showy specimens, we refer our readers to our Frontispiece, representing a Geranium or Pelargonium, grown by Mr. John Parker, gardener to Mr. Oughton, Elm Grove, and exhibited at the show of the Royal Botanic Society. The specimen was afterwards presented to the Queen.

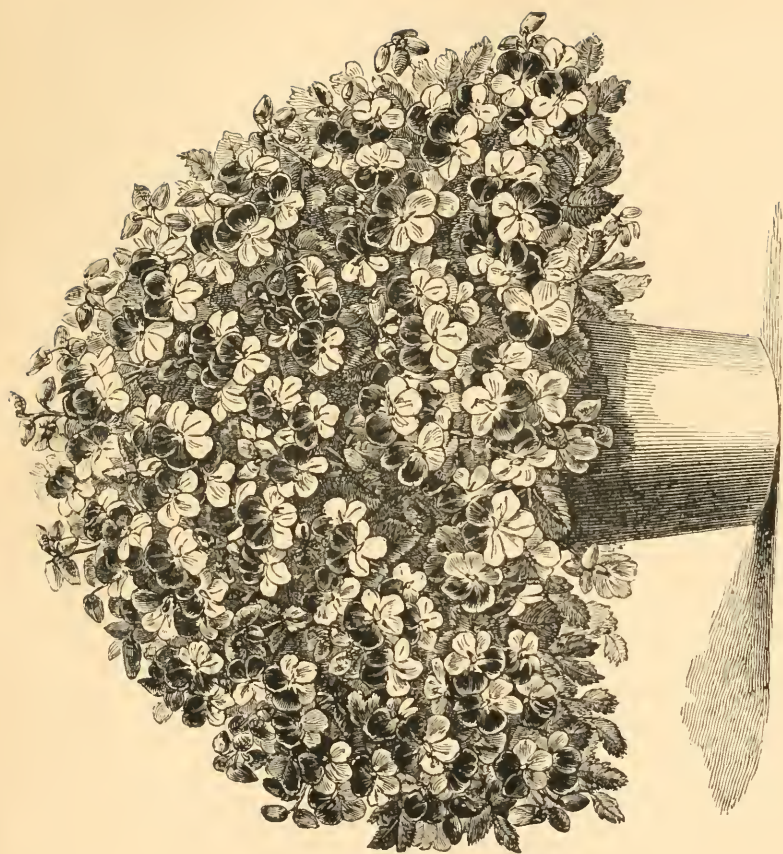
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THE HEART OF NEW-YORK.—The Erie Railroad has opened, and is opening, (for it has not yet reached Lake Erie,) a new State of New-York—a most picturesque and interesting country, which, from its former comparative inaccessibility, was an unknown land to the majority of travellers, and, we may add, even to the largest part of the citizens of New-York.

We passed over a portion of this road lately, as far as Cayuga lake, in the ripest beauty of autumn, and were greatly delighted with the interest of the scenery. The whole line of this road has the novelty of a new country about it. The region watered by the Delaware is wildly picturesque—with its wooded hills, its half-subdued forest thickets, and its dashing, impetuous streams. The Susquehanna country is now smiling and inviting in character, and is full of suggestions of the finest pastoral life in its valleys of sweet waters and glades and meadows of rich pasture land. But the shores of the Cayuga lake have a repose and cultured beauty about them which both particularly

pleased and surprised us. The memory of the little town of Aurora most especially remains with us. It is not, like some of the great *classical* cities of Western New-York, a misnomer in its very name, but there is such a *morning freshness* and youth about it that the goddess whose name it bears has no reason to be ashamed of the christening. The shores of Cayuga lake about this place, rise gently from the water, and are finely fringed and dotted with forest trees; among maples and elms which line (New England-like) the principal street of the village, are scattered the simple but neat houses, and as a centre to the grouping, rise a fine academy and village church, half hidden—like a French chateau—in a *bosquet* of tall dark-green poplars. Pretty gardens filled with fine shrubs and flowers, (we noticed perpetual roses and Paulownias in the grounds of Dr. THOMPSON,) and neat little villas with lawns running down to the lake, make up a picture of rural beauty such as one rarely sees; and if Aurora does not deserve mention among the half dozen prettiest villages in America, then are our eyes worth nothing as a medium for this kind of impressions. Cayuga lake is about four miles wide here, and stretches away up and down, some 40 or 50 miles in all. The waters are of crystalline purity, and so deep that the lake here never freezes in winter. The consequence of this is a mildness of climate much greater than any part of New England—Tea roses standing the winter with very little protection, and peaches bearing the finest crops of fruit, without disease in the trees, and with little or no care beyond the trouble of planting them. The Doyenne (or Virgalieu) pear thrives wonderfully in the soil here—the fruit more fair and beautiful than we remember to have seen it elsewhere.* When we add to this that the society is unusually good—the schools excellent—land worth only \$30 or \$40 per acre, and the neighborhood perfectly healthy, it will be seen that this is a region worth the attention of people who wish to “settle.” The Erie railroad (with a branch of a few miles) leaves you at Ithaca—the head of the lake, and railroad and

* Three trees were shown us the fruit of which had just been sold in N. Y. market for \$64.



PRIZE GERANIUM—SPECIMEN OF HORTICULTURAL SKILL.

HORT: Nov., 1850.



steamboat together Aurora is an easy day's journey from New-York. We could not but think, as we looked on those beautiful shores of Cayuga lake—a combination of fine wheat-growing lands, and lovely sylvan scenery—that thousands of persons on the other side of the Atlantic, wasting moderate fortunes in paying *rents* for no better soil, might, for the one year's rent they pay there, be proud proprietors of the soil here.

There are, indeed, three parts of the State of New-York not half enough known or admired. The Genesee valley, (especially the WADSWORTH estate) for its grand park-like character; the country south of Owego for its picturesque interest; and parts of Cayuga and the other small lakes of New-York, for the serene and quiet beauty of their landscapes. How many emigrate to the great West, quite overlooking these treasures of country-homes still cheaply obtainable nearer home.

Returning, on the same railway, we could not but admire the rich picture of abundance presented by the cornfields lying on the slopes of the hills and basking in the sun. Certainly no grain is so handsome as the Indian corn—its large and golden ears bursting from the husk, and looking like gifts from the gods. And pumpkins—we felt angry as we saw the cornfields thickly embroidered with them, and seeming, as we glided rapidly by, like gigantic oranges strewed over the ground—we felt angry that the commonness of pumpkins, or the fact that they grow in a prosaic age, had so deprived them of all the charm of story and association. Why the vineyards of France or the olive groves of Southern Europe are, as every traveller knows, (poetry aside) utterly unworthy of being mentioned beside an American field of Indian corn and pumpkins!

THE POMOLOGICAL CONGRESS.—The annual meeting of the Pomologists and fruit-growers took place as announced, at Cincinnati, during the first week of the past month. We learn from various members who attended this session (the numerous home engagements accumulated during our absence abroad having, much to our regret, prevented us joining our friends there) that the session was in the highest degree interesting. That eminent pomological amateur, Dr. BRINCKLE, of Philadelphia, was elected president of the Congress, and numerous horticulturists, fruit-growers, and nurserymen from all parts of the Union were in attendance, laden with interesting specimens.* The show of apples was particularly fine, and the peaches of the neighborhood of Cincinnati astonished all members from a distance by their size

beauty and excellence. The discussions which took place after the organization of the Congress were spirited, and embraced a resumé of the culture of the past year; the whole was duly reported, and will, we understand, be published as usual in a pamphlet form.

A large and very rich exhibition of the Cincinnati Horticultural Society, the Fair of the Ohio State Agricultural Society, one of the most extensive displays of farm products ever made in the country, took place at the same time, and, together with a brilliant ball, made the queen city of the west, crowded as she was with strangers, the centre of attraction for almost the whole of the first week of October. Most of the horticultural guests visited the noted garden of Mr. LONGWORTH, and inspected with great interest the large vineyards covering the hills above Cincinnati—the first successful solution of the problem—will America ever be a vine country?

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NOTES UPON FRUITS.—Among the few fine fruits that have come under our notice this season, we have great pleasure in making second favorable mention of the new pear introduced to notice by Mr. HASTINGS, of Clinton, N. Y., called by him the *Fredrika Bremer*, and described in this journal, vol. 4, page 417. Specimens sent us this year were even finer than those we tasted last year—remarkably melting and juicy, and most delicately perfumed. Another new seedling sent us by Mr. H., considerably resembling the White Doyenne, appears likely to prove an acquisition.

Reine Claude de Bavay and Ickworth Imperatrice plums have both proved very fine this season.

We cannot but think the Easter Bergamot pear has been generally under-rated, and allowed almost to disappear from the nurseries. It is, to be sure, of little or no value as a table pear—but as a cooking pear, especially for stewing, it is excellent. No doubt it has superiors in quality, even among cooking pears, but certainly no variety exceeds it in the uniform fairness and handsome appearance of the fruit, and no pear that we know is so regular and heavy a bearer. Then the tree is very healthy. We find, after eight or ten years trial, that no pear is so *dependent on* for winter use by the cook, as the Easter Bergamot—hence we think it but right to give it a passing word of commendation to those who wish a stewing pear for family use or for market.

Rockport Bigarreau and Cleveland Bigarreau, two of the new cherries raised by Dr. KIRTLAND, of Northern Ohio, have proved a decided acquisition—being large, handsome and excellent.

Bonne des Zees, is a new foreign pear which has fruited this year, and promises to take its place in the first rank.

* Excepting from New England—which much to the surprise and regret of the West—was not represented. Did our friends the ardent votaries of *pears* at the East fear to enter a field where the *apples* have it all their own way?

MASS. HORT. SOCIETY.—The annual exhibition of this society was considered one of the finest as regards the variety and excellence of the fruit shown, ever seen in the United States. The hall of the society was not only filled, but the rooms on the lower floor of the building, not usually occupied, were also put in requisition, and crowded with fine collections of fruits. Among the remarkably fine specimens were Onondaga and Beurre d'Anjou pears grown by Messrs. HOVEY, of Boston; Van Mons Leon le Clerc, by Col. WILDER; Doyenne Boussock, by Mr. DAVIS, and Louise Bonne de Jersey, by Mr. BEMIS. Mr. FRENCH exhibited a very fine collection of apples—one hundred and forty varieties. The collection of plants in pots and cut flowers was much smaller than at any previous exhibition of the society.

As a guide to fruit-growers we annex the following memorandum of the varieties of pears to which the premiums were awarded:

1st PREMIUM—Col. WILDER's collection; twelve specimens of each variety—Van Mons Leon le Clerc, Dunmore, Beurre d'Anjou, B. d'Amalis, Golden Beurre of Bilboa, Beurre Diel, Duchess of Angouleme, Columbia, Urbaniste, Glout Moreceau, Le Cure, and Catillac.

2d PREMIUM—HOVEY & Co.'s collection, do; Knight's Monarch, Bule, Beurre d'Anjou, Onondaga, Le Cure, Louise Bonne de Jersey, Beurre d'Amalis, White Doyenne, Beurre Diel, Williams' Bon Chretien, Dunmore, Beurre Seutin.

3d PREMIUM—Mr. GORDON's collection, do.; Brown Beurre, Beurre Bosc, Queen of the Low Countries, Van Mons Leon le Clerc, Winter Nellis, Duchess d'Angouleme, Louise Bonne de Jersey, Marie Louise, Buffum, Glout Moreceau, Beurre Deil, Beurre d'Amalis.

ST. LOUIS HORT. SOCIETY.—Our horticultural friends in Missouri not only know how to get up good exhibitions, but how to enjoy these annual festivals. About one hundred and fifty members of the society (as we learn from the Missouri Republican) sat down to the Society's dinner at Concert Hall, at the annual meeting. The president, THOMAS ALLEN, Esq., presided, and the beauty and excellence of the entertainment were fully enjoyed by the large company of members and guests assembled. St. Louis is the rival of Cincinnati in the production of native wines, and we notice that Catawba wines of several vintages, pronounced excellent by good judges, were introduced and drunk at the feast. Several new seedling grapes were also exhibited, some of which promise to be superior to the Catawba.

WORCESTER (MASS.) HORT. SOCIETY.—Certainly this society, in its annual exhibitions, is not in the least behind any sister institution in

the country. Perhaps the *general* collection of fine fruits is better here than anywhere else, evincing not only the character of the soil and climate, but the horticultural zeal and skill of the members.

At the late annual exhibition the prizes for pears were carried off by J. M. EARLE, who exhibited forty-nine varieties of pears; D. W. LINCOLN, sixty-three varieties, and S. H. COLTON, twenty-seven varieties. Mr. COLTON also took the first prize for apples, showing fifty-two fine varieties. Mr. J. C. STONE's beautiful display of *Mother* apples received a special premium. The pears that attracted most attention were those of the *Paradise d'Automne*, exhibited by various members. Its size, beauty, productiveness, and very high flavor have made it very popular in that part of Massachusetts.

NEW-BEDFORD HORT. SOCIETY.—The annual show here was an excellent one, if we may judge from the published reports. Pears were very fine and abundant—nearly one hundred different varieties were exhibited, many of them so large and excellent as to afford proofs of the highest cultivation. The Beurre Rans seems to stand high among winter pears here,—very large and fine samples being exhibited by several persons.

The largest display of varieties was made by the President of the Society—JAMES ARNOLD, Esq. Messrs. WM. T. COOK, R. N. SWIFT, CHARLES W. MORGAN, WM. SWIFT and HENRY H. CRAPO, were the next largest exhibitors. The samples of Beurre Diel, shown by Mr. JOHN A. PARKER, Beurre Bosc by JOHN HOW, Duchess of Angouleme by J. M. HOWLAND, Colmar d'Arenberg by WM. P. DENNY, and Wilbur by EDMUND GARDNER, were of unusual size and beauty. Specimens of that little known but valuable fruit, the Jonhonnott Pear, were shown by Mr. F. P. CHASE. The display of peaches, apples and grapes was also very creditable to the society. The hall was tastefully decorated, and the collection of flowers, though not large, was choice and interesting.

SOUTHERN IOWA HORT. SOCIETY.—We are glad to see that, in the extreme west, horticulture is awakening great attention. This society held its second annual exhibition in Burlington, the last week of September, when 147 different kinds of apples, and good collections of peaches, pears and other fruits were shown. Those who contributed most largely were Messrs. ROBERT AVERY, CALVIN GAMAGE, J. W. FELL, JOSEPH STEVENS and ABNER LEONARD. In the floral department, Messrs. RAND and GRAY bore off the first prizes.

DAPHNE ODORA—A HARDY SHRUB.—There is now growing in the garden of ROBERT BENNER, Esq., near Hurl Gate, a vigorous *Daphne odora*, which was purchased late last autumn, of Mr. BOLL, in full bloom. After the bloom went over

some time in December, it was turned out of the pot into a *north* border unprotected, and is now (Oct. 18) in a thrifty condition—not having a yellow leaf. This is an interesting experiment with a favorite shrub, generally believed to be quite tender,—it has, however, been known to stand out all winter in Scotland.

I am experimenting on two, one of which is the silver-edged, having turned them out a month since. It is a native of India, but it is probable the confirmed practice of housing it very tenderly has tended to encourage its bloom in winter. Should further experience prove its hardiness, what an addition it will become to our garden shrubbery. I will make a further report to you respecting it next spring. *D. D. Astoria, Oct. 18, 1850.*

SOUVENIR DE LEIGE HELIOTROPIUM.—This new variety of a pleasing tribe, and on which so many fond hopes were built in the expectancy of having a yellow "*Heliotrope*," and withal fragrant, has resulted, to a certain extent, in disappointment. In justice, however to the Messrs. PARSONS, who sent it out here, it must be admitted that they (shortly after advertising it as yellow) were misinformed, and that it was not as expected, but different from the *intermedia*, &c. &c. I have given it a fair experiment this summer, by turning a young plant into the open ground in June, and am now so well satisfied of its distinctness as a variety as to unhesitatingly pronounce it an acquisition. A large plant of it now in bloom in the conservatory is a most beautiful object; the trusses are more ball-shaped than the old sort—more erect on the stem, and the whole plant of a much more robust habit than either *peruvianum* or *intermedia*. It more resembles *H. grandiflorum*, and is every way superior to that showy variety, being as large-flowered, and excelling it by being delightfully fragrant. To bloom *Souv. de L.* well, it must have its season lengthened by lifting the ball from the earth the end of September—potting in rich, light loam, and immediately placing it in the greenhouse. It will then soon develop itself, and fail not to be admired, and I have no doubt will continue to bloom nearly all winter. It is a variety I shall carefully cherish and recommend to all who admire (and who does not) this lovely tribe, which should stand on the same shelf with the beautiful *H. voltarianum*—the contrast of dark bluish lilac being admirable, I doubt not, when transferred to the fine climate of Carolina and Georgia, it will bloom magnificently and continue longer in flower than in any other sort. A variety sent me from London, called *Triumph de Leige*, and rated distinct in the English catalogue, is synonymous with "*Souvenir*." *T. Astoria, L. I., Oct. 15, 1850.*

NOTES AND QUERIES BY A LADY.—The Horticulturist has for some time past afforded me much pleasure and instruction, and the time of its arrival is looked forward to with increasing interest,

and its contents eagerly *devoured*. Will the Editor allow me to say that I was so much pleased with "*Wild Flowers*," letter, a few numbers back, that I hope she may favour us again. I regret that the ladies do not write more for the "*Horticulturist*," as I am sure their failures and success in gardening would prove highly interesting.

I sincerely hope whitewashing will prove a satisfactory remedy for the *curculio*, for I am getting quite discouraged about my plum trees. I intend to try it next year. My Roses were very much disfigured with a green worm this spring, that formed a web and rolled itself up in the leaves, but I sprinkled the foliage with air-slaked lime, and have not seen one since, except dead ones.

I too have tried *mulching* with great success, and do not think too much can be said in its praise. I would write several pages on its good effects if it were necessary.

I hope your Pittsfield correspondent will not feel discouraged by losing his verbenas last spring; (if I remember rightly he tried keeping them in a hot-bed frame). I lost a very fine one last spring, but it was through neglect, as one I had in another frame which was treated properly lived without other protection, and has done well. I have been quite disappointed in flower seeds purchased lately, which will not come up. I have been told they were *scalded* beforehand; can it be so? [No seedsman, honest or knavish, would be so foolish as to scald his seeds before selling them. ED.] I do not like to say of whom they were bought, but I shall avoid him in future, with a hope that his *conscience* may trouble him, if he has any.

I have always been in the habit of planting my Hyacinths, that bloomed in water, out in the open ground after they had done blooming, and that was the *end* of them; but this spring I planted them in pots as soon as the bloom had faded—kept them in the house until I put out the rest of my pot-flowers; the consequence was they grew finely, and the roots appear to be as fine as those that bloom in the ground. I have no doubt they will bloom well this winter, at all events I intend to try them, and see what they will do.

Will the Crape Myrtle and Laburnum require protection in Maryland, while small? [The first probably will—but not the last. ED.]

I will end these "*rough notes*" by a quotation from GOETHE, which I commend to those among your feminine readers who wish for *reasons* when their friends of the "*opposite sex*" undertake to make battle against the love for a culture of flowers:

"Every gift is valuable and ought to be unfolded. When one encourages the beautiful alone, and another encourages the useful alone, it takes both of them to form a man. The useful encourages itself, for the multitude produce it, and no one can dispense with it; the beautiful must be encouraged; for few can set it forth, and many need it." *A Constant Reader. Maryland, 1850.*

LOCATION AND ASPECT OF ORCHARDS.—Perhaps nothing would be more serviceable to the inexperienced cultivator than the power of knowing in advance the capabilities of any grounds he might design to appropriate to orchard culture. Inclining strongly to this opinion, the committee have gone somewhat into detail upon facts tending to shed light upon this subject. They are clearly of opinion that, if heretofore there was any doubt upon the subject, the facts now before them warrant the assertion that, other things being equal, the highest grounds are best fitted for success in orchard culture. Those of great elevation being subjected to such increased cold as keeps vegetation back in spring till the danger from frost passes by; whilst smaller undulations upon the surface and the higher strata of the hill-sides are supposed to part with less of their surface heat by radiation than the more moist low lands. The committee are in possession of a well authenticated instance of the effect of absolute height, furnished by a gentleman of high standing and of the most competent ability to form an opinion on such a subject. This gentleman has owned and had cultivated for many years a farm lying within the peach district; his own orchards occupying parts of the slopes of hills of no great height, inclining gently toward a river distant only a few hundred yards. His success has been marked with the uncertainty common to a fickle western climate—that is, a fruit year and a failure, or perhaps two years of productiveness and three of disappointment in every five. Within five miles of his farm, however, is located a hill six hundred feet high, and which is thereby made visible at his farm. Upon this hill the peach crop has not failed since he first knew it.

In far the greater number of cases, the cultivator has to choose between places varying in height only a few feet; under which circumstances, it appears that elevation secures a greater amount of heat, by keeping the surface within the range of moving strata of air and from other causes, than is experienced in the bottoms or depressions.

That they may be the better understood the committee quote freely from a topographical survey of his orchard grounds executed by one of their correspondents. This gentleman's site occupies the midst of a plain 250 feet above the level of the Ohio valley; its figure is a parallelogram, the long sides running northeast or southwest 100 rods; the short at right angles thereto, in length 75 poles. A valley heads at the eastern short boundary about the middle and runs through the midst of the orchard, crossing the lower or western boundary at a depression of 52 feet below the summit.

The sides of this valley include a large portion of his bearing trees. The map of this survey is marked by horizontal lines at every ten feet depression, counting downward from the summit,

so that one sees at a glance how much each tree on the slopes of the valley falls below the summit of the plain. The author of this survey remarks that trees situated near the horizontal line of 30 feet, counting from the summit downward, lost many of their fruit buds on the lower branches during the winter of 1849-50, while other trees of the same varieties at higher elevations preserved their fruit buds unhurt. Again, that, after blooming in the spring, the same trees were more or less affected by frost, as they were below or above said horizontal line of 30 feet—whilst moreover as depression deepened toward the lowest point in the valley the injury from cold increased until not only the fruit buds were killed in 1849-50, but also the small branches or spurs themselves on which the buds were growing. Again, the surplus waters falling upon the plain had in time furrowed out a channel which crossed the southern side of the parallelogram running down one slope of the valley into the stream gliding through the centre. Trees located in or near this channel, even when above the horizontal level aforesaid of 30 feet, were not secure from injury like others on the same horizontal parallel only a few rods distant. To give an example of general results, he states that the Heath tree on high ground bears this year abundantly; below the line of 30 there is not a fruit, and between the horizontal lines 45 and 50 he has some dozen thrifty trees that have not borne in eight years, although in that time there have been three full crops and two partial ones.

The committee have received no account, written or verbal, differing materially from this, except in accuracy of detail. One gentleman states that his peach orchard inclines gently from either of two opposite sides inwardly, but that the depression at the lowest point does not, he thinks, exceed five feet; yet near this lowest point the fruit buds were killed last winter, and even some trees destroyed by cold. Another correspondent, residing upon the flats of Beargrass, a plain which is unbroken for miles in extent and which would be one great morass but that its lands are so fertile and friable as to filtrate the waters which descend upon its surface, assures the committee that only high lands are suited to orchard culture, and, as proof of his theory, points to barren trees along the margin of his streams, moving sluggishly along, almost without banks and without current, whilst his other trees, a little way off, not ten feet higher, bear well. Still other correspondents, whose orchards lie upon hill sides, assert that they can tell in spring where the line of safety ends, and that of injury begins, and that they can perceive the gradations of injury grow greater as the hill sides are descended.

The cause of this injury will doubtless be found to consist either in the greater intensity of cold prevailing in bottoms or the greater susceptibility to harm on the part of trees located amid the

greater moisture always present there. This is an interesting question, and its solution will require many experiments similar in character to those published during the present year by that fast friend of science, Lieutenant Maury, of the navy. The committee have thought the following experiment, though not conducted with a view to that end, calculated to shed light on this subject. On the 14th and 15th of April, 1850, at night, the mercury, in open air, sunk to 26° above zero, and every unprotected open fruit blossom was killed; but at the same time a fruit tree in full bloom, surrounded by artificial heat, with a self-registering night thermometer in its branches which never sunk lower than 29° , saved all its fruit alive; thus showing the difference between safety and destruction not to exceed 3° . Again, the same observer, the author of the topographical survey, on the 2d of April, 1849, had one thermometer on the high portion of his orchard grounds and another in the bottom thirty-five feet lower. At 1 A. M., he found the thermometer in the bottom at 28° , and, being surprised to see that on the hills 33° , changed their position, but was soon convinced that there was a difference in temperature between the two points of five degrees, which, on the 14th and 15th of April last, would have been more than a killing difference. An acknowledged ignorance, both of the intrinsic value and time of ripening in respect to many peaches, pears, and plums now in cultivation, forbids any attempt on the part of the committee to offer a list for general cultivation, or to propose a rejected list; and they would further remark that, although the statements herein set forth are more particularly applicable to stone fruits, it is only because their comparatively tender habits render them more frequently a prey to ever existing causes than the hardier apple and pear. The latter fruits are by no means harm proof.

In regard to preventives against the assault of the curenlio upon smooth fruits the committee feel called on to state a few facts and experiments. Several cultivators have this year tried dusted lime, upon Mr. Young's plan; others trying with whitewash. Whitewashing fails to cover the young fruits, and seems to be inefficient, and, for this season, dusted lime has not given the same satisfaction as for the two previous years. At present the committee are inclined to think failure (which was only in part,) attributable to erroneous impressions as to the stay of the curenlio rather than to any want of virtue in powdered lime. Several experimenters testify to the soundness and beauty of their fruits so long as the limings were kept up; but that the curenlio, instead of disappearing at the end of a month, as usual, prolonged its stay and afterward wholly destroyed some crops and greatly injured most others treated with lime. All of which is respectfully submitted. *L. Young, Chairman State Fruit Committee for Kentucky.*

MASS. ANNUAL HORTICULTURAL EXHIBITION.—The exhibition opened on Tuesday at the rooms of the Mass. Horticultural Society, in School-street, and we can promise our readers that the display was unusually rich,—the specimens of fruit and vegetables surpassing in beauty of appearance, and number of varieties, those exhibited in any preceding year. The decorations of the Hall—floral and evergreen—are in good taste, and the arrangements for the best display of Nature's richest productions, are highly appropriate and successful. The hall above, usually devoted to exhibitions, is exclusively appropriated to flowers and pears. But the pears constitute by far the most interesting object of the exhibition, embracing glorious specimens of all kinds which are known to cultivators in New England, and many new varieties recently introduced from abroad.

It is, of course, impossible for us to give even a sketch of the varieties and character of the various pears exhibited, or even a list of the contributors, whose name is Legion, and among the most prominent of whom we find the names of Wilder, Walker, Winship, Breck & Co., Hovey, Gordon, Manning, Williams, Cabot, and Lovett. The number of varieties of pears exhibited by Col. Wilder, was upwards of two hundred, and some of the specimens were remarkably fine—especially a dish of the somewhat celebrated pear, Van Mons Leon le Clere, whose size and beauty must command universal admiration. Col. Wilder exhibits several new varieties, whose merit has not yet been tested—and among them we saw the Westcott, a native pear, from Rhode Island, we believe, of high reputation, but hitherto unknown here.

Among the finest specimens of pears exhibited, were some of the Swan's Orange, by Hovey & Co., a large and fine looking pear; some of the Seckel, and Beurre Bose, from Mr. Driver, of Salem; Beurre Bose and Vicar of Winkfield, from Mr. Gordon of Brighton; Louise Bonne de Jersey, very large, from Mr. Baldwin of Brighton; Andrews, (magnificent) from Mr. Crafts of Roxbury; the Nouvelle Boussock, from Mr. Washburn of Plymouth; Flemish Beauty, from J. W. Rogers of Jamaica Plains; Columbia, from A. D. Williams & Son, Roxbury; Beurre Diel, (very large) from Mr. Bacon of Roxbury; Flemish Beauty and Beurre D'Amalis, and Urbaniste, from Mr. Lovett of Beverly; Flemish Beauty from J. W. Rogers, Jamaica Plains, Beurre D'Amalis, Gil-O-Gil, and Louise Bonne de Jersey, from Mr. Johnson of Lynn; Seckel from Mrs. Dudley of Roxbury; Chaumontel, a fine old French variety, from Breck & Co., Brighton; Figue, Winter Nelis, and Columbian, from Mr. Cabot of Salem. Mr. Cabot exhibited eighty-five varieties. A dish of Bartlett pears, well and carefully ripened, of a beautiful clear golden color, from Mr. Raymond of Cambridge, are worthy of particular attention,—also, some good specimens of Bartlett grown, on an apple tree, from Wm. J. Niles of West Cambridge.

There is also a large basket containing ninety-five fine Bartlett pears, the product of one small tree, three years from the graft, from Mr. Macintire of Somerville. Mr. B. V. French of Braintree, exhibited over one hundred varieties of pears, some of them very fine specimens, and about the same number of varieties are exhibited by Mr. Manning of Salem.

The lower floor, including the large room rented by Mr. Bowditch, for the New England Seed Store, is crowded with apples, peaches, plums, and vegetables, the great variety of which, as well as their magnitude and beauty, must attract great attention from all persons of taste. We never saw a finer exhibition of apples; Mr. B. V. French exhibits about *one hundred and forty* fine varieties, including probably all the best kinds cultivated. Over these the Gloria Mundi, as large as good sized pumpkins, seems to reign supreme. A. D. Williams & Son, of Roxbury, exhibit some thirty or forty varieties, among which we particularly noticed as most conspicuous, the Queen of the Orchard. Some Baldwins, from L. G. Lake, of Topsfield, are uncommonly fine; also the apples from J. B. Moore of Concord, and James Eustis of South Reading. Mr. Eustis exhibited thirty varieties.

The peaches and other fine fruits, occupy a large table in the library room, and form a pleasing object of study for the painter and epicure. They look most tempting. Some varieties, as for instance the early Crawford, are very fine. So also are the specimens of nectarines and plums.

The vegetables are conveniently arranged on the lower floor, and should not be forgotten, constituting as they do, by no means the least important part of the exhibition. Among the contributions we notice a variety of squashes, tomatoes, cabbages which can hardly be contained in a wash-tub, corn, beans, &c., from A. D. Williams of Roxbury; a fine lot of vegetables of the same kind from A. Parker of Roxbury; potatoes, cauliflowers, squashes, &c., well worth looking at, from Lyman Kingsley of Canton; a noble Yankee pumpkin, from Nahum Stetson of Bridgewater; an enormous Jersey squash, from A. A. Andrews of Roxbury; large Marrow squashes, from J. A. Lowell of Roxbury; Old Colony Sweet corn, a new and prolific variety, from A. R. Pope of Somerville; and some magnificent vegetables of various kinds, from J. B. Moore of Concord, such as beets 30 inches in length, and parsnips nearly as large, turnips of several kinds, and fine-looking melons. There are also some fine Marrow squashes, from John Schouler of Cambridge, and Crook-necked squashes, Egg Apple, and other vegetables, from J. Gordon of Brighton.

A full description, however, even if we had time to write it, would convey but an imperfect idea of the beauty and excellence, and variety of the good things now on exhibition at the Society's Rooms in School-street. Even if it would, a full description

would be unnecessary, as all persons of taste who take the slightest interest in such productions—and who does not?—will go and examine for themselves. *Boston Journal.*

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WORCESTER HORTICULTURAL SOCIETY'S ANNUAL EXHIBITION.—The Committee are of the opinion that a finer display of fruit than that which they were called upon to examine, has never been exhibited within the limits of New England, outside of the city of Boston. The lovers of fruits and flowers may well congratulate themselves upon the measure of prosperity to which the society has attained; gratifying as it is for the present; encouraging as we hope it may be for the future. One thing cannot fail to be noticed, that the pomological resources of the society have wonderfully increased within a comparatively short period of time.

Ten years ago, there were placed upon a few small tables in an obscure room, three or four dozen dishes of apples—chiefly of the most common varieties,—a few plates of pears—kindly given or reluctantly lent for the occasion by cultivators residing within the territory proper of the Mass. Hort. Society—a score or two of quinces, and *one solitary sample of the peach*. To make out the attractions of the display, the room itself was decorated with paintings. These and other preparations having been made, the people (counted as easily by scores as by hundreds) assembled to witness the first regular exhibition held by the society.

A few years have passed away, and the society have just held their eleventh annual exhibition. Their large and commodious hall was filled with tables, leaving only passage ways between them. Upon these were arranged twelve hundred plates of beautiful fruit, all carefully labelled! Besides the members of the society, more than two thousand visitors crowded into the hall to examine and compare the fruits, and to become bewildered by the profusion that surrounded them.

The display of pears alone comprised nearly four hundred plates, containing specimens of not less than seventy varieties.

Of apples, there was a still greater quantity, although the number of known varieties might have been less.

More than thirty varieties of the peach were exhibited, among which were several fine and beautiful seedlings. Although late, and in an unpropitious season, the best collection numbered not less than thirteen valuable varieties of plum—a cheering evidence that, in despite of black exerescence, the rot, and the curculio, it is not yet time to despair of this favorite fruit.

Of grapes grown under glass, a single cultivator, D. W. Lincoln Esq. of this city, exhibited nine varieties.

Several specimens of the grape grown in open culture where upon the tables, but they were mostly unripe. There were also fine quinces

and other fruits. With the single exception of two plates of peaches from Mr. Delavan of New Jersey, the entire collection of fruit was the product of the county of Worcester! It would hardly be an exaggeration, to assert that the whole State of Massachusetts, exclusive of Boston and half a dozen towns in the immediate vicinity of that city, could not, ten years ago, have produced such a display of the truly valuable productions of the orchard and garden, the great utility of the horticultural exhibitions would seem, therefore, to be no longer a matter of question; for certainly, it is from these more than from any other sources that the committee have acquired a knowledge of the very best varieties of fruit, and a taste of their cultivation. James Allen, of Oakham, contributed a fine specimen of cranberries, grown in his garden, together with a written account of the method of cultivation. Doubtless a fine crop of this fruit might be raised in any garden, by manuring heavily with swamp muck, and adopting the same general mode of culture as for the strawberry.

After a great deal of examination and careful comparison, the committee concluded to award the Society's Premiums, as in the annexed list.

PEARS—*Best Collection*, 1. J. M. Earle, \$5—2. D. W. Lincoln, \$1—3. S. H. Colton, \$3—*Best Six*, 1. John C. Mason, Paradise d'Autonne, \$2—2. G. Paine, L. B. de Jersey, \$1.

APPLES—*Best Collection*, 1. S. H. Colton, \$5—2. Joel Knapp, \$4—3. B. N. Child, \$3—*Best Six*, 1. J. C. Stone, Mother Apple, \$2—2. Chester Gorham, Hubbardston Nonsuch, \$1.

PEACHES—*Best Collection*, 1. J. H. Allen, \$4—2. Capt. Silas Allen, \$3—3. C. J. Parker, \$2—*Best Twelve*, 1. Asa H. Allen, for his splendid Seedlings, \$2—2. W. L. Lewis, Early Crawford, \$1—To E. H. Hill, for best new Seedling, \$1.

PLUMS—*Best Collection*, 1. S. H. Colton, \$4—To Ansel Luken, best dish, name doubtful, \$2—2. J. C. Mason, for Jefferson, \$1.

GRAPES—The splendid specimens from D. W. Lincoln, being entered for exhibition only, the Committee awarded the 1st. To Charles Hale, Millbury; best Grapes, (grown under glass)—\$2—3d. To William Earle; best Grapes of open culture, (for his *Sweetwater*)—\$2.

QUINCES—1st. Job C. Stone, Shrewsbury; best specimen of not less than six Quinces—\$2.

GRATUITY—To Solomon Parsons, for a beautiful plate of High Blackberries—\$1.

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ANSWERS TO CORRESPONDENTS.

GRAPE VINES.—*A. L. W.* Bury the leaves of your vines about the roots, they are the best manure for them, and you may use the lime-ashes—the refuse of the kilns after burning the lime, as a manure. You may apply as much as 500 bushels to the acre with great advantage, as no plant is fonder of lime than the grape.

Vitis, (Burlington, N. J.). The three best sorts are Black Hamburg, Royal Muscadine (Chas-selas of Fontainebleau,) and Museau of Alexandria. They will all ripen in a cold vinery. *An old Subscriber*, (New Haven) If the sub-soil is gravel or sand the borders for the vines will need no drainage. Prune your vines and wind straw round the stems for the winter.

ANNUAL FLOWERS.—*A Subscriber at Mohawk*. German Asters are only China Asters—improved by cultivation—very double varieties, variegated and of different colors, with plain or quilled petals. Great attention is paid on the continent to this flower, and seeds, very carefully saved, are sent from Germany to other countries.

TRAINING PEARS.—*Several Maine Subscribers*. We intend giving soon an account of the mode of training pyramidal pear trees as we saw it practiced in France. It will be quite in time for you, as the first pruning takes place in March. *A. R.*, (Delaware). We recommend the following sorts to you: Bartlett, Louise Bonne de Jersey, Beurre d'Anjou, Seckel, Paradise d'Automne, Duchess of Angouleme, Winter Nellis, Beurre d'Arenberg.

ROSES.—We would advise you to plant Perpetuals instead of "June roses," as they have all the beauty, size, color and fragrance of the June roses, with the advantage of blooming several times in the season. We recommend the following sorts of Perpetuals: Baron Prevost, La Reine, Mrs. Elliot, Robin Hood, Wm. Jessie, Dr. Marx, Geante des Batailles, Duchess of Sutherland, Augustine Monchelet, Lady Alice Peel, Auberon, Madame Lallay. Make the soil for them 2½ feet deep and very rich—and let the basis be strong loam, not light sandy soil. Chenedole is a fine Hybrid China. The Pondrette of the Lodi works is a good manure for roses. Buy Buist's Flower Garden Directory, and Mrs. Loudon's Companion to the Flower Garden.

TREE PLANTING.—*A Beginner*, (St. Louis). In your rich soil, deep plowing is all that you need, and you will succeed best if you press the earth pretty firmly about the roots. Though you should plant the tree a little higher than it stood before, to allow for its settling, you had better raise a hillock five or six inches high around it to keep the tree steady—removing the hillock when the ground is settled in the spring. This hillock will usually be found to steady the tree (if small) sufficiently, without using stakes. *W.*, (Trenton, N. J.) Trench the ground throughout before putting in the dwarf trees, as it is worn out. Work in a heavy dressing of stable manure, and give it a plentiful top dressing of leached ashes. *A Constant Reader*, (Norwalk, Ct.) By all means shorten in the ends of all the forest trees before planting them. The trees will put out much more vigorous

shoots, and at the end of three years will have a finer head than if left untouched—to say nothing of the greater certainty of their living. You may plant evergreens at any time—autumn, winter, spring, or even summer, *provided* you can move balls of earth with the roots.

RARE TREE SEEDS.—*A Nurseryman*, (Baltimore). You will find full directions for raising Magnolias from the seed, in vol. 11, page 191. Most rare tree seeds should be sown as soon as gathered in deep, rich sandy soil, and the beds covered during the winter with about two inches of tan-bark.

HALF HARDY SHRUBS.—*W. Richards*, (New York). Raise a small hillock of tan or charcoal or sand round the trunk of the shrub, and turn a barrel over it. In order to admit a little light and air, raise the north side of the barrel a couple of inches, and put a stone under it. It is not the cold, but the sunshine after the cold which destroys half hardy plants. Tea roses do better if left in the beds and covered with a

rough frame and common hot-bed sash, with a few inches of straw over it, than if taken up now, housed, and replanted in the spring. The Ivy, which fails to grow with you, needs to be shaded and sheltered a little the first few winters, till it gets established on the wall with plenty of leaves; it will then grow luxuriantly and take care of itself. You will find evergreen boughs from the woods, if you can get them, better for covering tender plants than straw or litter.

DWARF PEARS.—*G. I.*, (Worcester, Mass.) A south wall is the very worst situation in which to train a pear tree; the sun is too hot in summer, and the thawing and freezing too violent in winter. We should say don't plant them there at all—but if you *must*, then put a trellis a few inches from the wall, on which to train the trees. The following are good sorts for the purpose—on quince: Duchess d'Angouleme, Louise Bonne de Jersey, Beurre d'Anjou, Winter Nelis, Paradise d'Automne.

PENNSYLVANIA HORTICULTURAL SOCIETY.

The stated meeting for September was held in the Hall on Tuesday evening, 15th. Wm. H. Dillingham in the chair.

Communications from Herman Wendell, M. D., of Albany, N. Y., and James Arnold, of New-Bedford, Mass., were read in reply to a notification of their election as honorary and corresponding members of the association.

The stated meeting for October was held in the Lecture Room on the 15th. The President in the chair.

The exhibition on the occasion was beautiful; consisting of a goodly collection of fine plants, from Mr. Dundas' green-houses, and another from John Lambert's houses; and very tasteful designs of cut flowers by Andrew Dryburgh and Peter Raabe; chaste baskets of cut flowers and bouquets by Maurice Finn, Andrew Dryburgh, William Hall and Robert Kilvington. The display of fruit was interesting and from various sources; from Mr. Samuel Walker, President of the Massachusetts Horticultural Society, nineteen varieties of pears, viz., Vicar of Winkfield, Duchess d'Angouleme, Beurre Diel, Louise Bonne de Jersey, Figue of Naples, Figue, Eyewood, Napoleon, Winter Nelis, Beurre d'Anjou, Passe Colmar, Belle et Bonne de Hee, Doyenne Dorée, Beurre d'Arenberg, B. Capiaumont, B. Duval, Urbaniste, Columbia and Catillac; from Matthew Mackie, Clyde, Wayne county, N. Y., pears—the Sheldon, Huron and Wisner, and the Clyde Beauty Apple; from J. C. Hastings, Clinton, Oneida county, N. Y., the Fredrica Bremer Pear; from Cincinnati Horticultural Exhibition, apples—the Rome Beauty, Cooper, Belmont (or Waxen, of Ohio), Springer's Seedling, Pryor's Red, Carpenter's Seedling from Lake Erie, and Knight's Spitzenberg; from W. V. Pettit, Easter Beurre Pears. For a sight of these, the society was indebted to Dr. Brinckle. Isaac B. Baxter presented two varieties of seedling peaches, Duchesse d'Angouleme Pears, and two varieties of grapes. Dr. Blackfan—specimens of the Hector Apple, a seedling of Delaware county. John Perkins—apples—the Fall Pippin and Autumn Pearmain. Mrs. N. A. Roe—the Hayes Apple and quinces. Wm. Johns—three varieties of grapes. The displays of vegetables, by Anthony Felten, Anthony Felten, jr., Maurice Finn, gardener to Jno. Lambert, and Jno. Gallagher, gardener to Miss Gratz, were very commendable.

Premiums were awarded by the committee on plants and flowers. Hot-house plants—for the best three specimens, to James Bisset, gardener to James Dundas. For the most interesting collection of plants, to Maurice Finn, gardener to Jno. Lambert; for the second best collection, to James Bisset. For the best design of cut flowers, to Andrew Dryburgh; for the second best design, to Peter Raabe. For the best hand bouquet, to James Bisset. For the best bouquet of indigenous flowers, to Robert Kilvington. For the best basket of cut flowers, to Andrew Dryburgh; for the second best basket, to Maurice Finn. And a special premium of one dollar to Wm. Hall, for a basket of flowers.

By the committee on fruit. Pears—for the best half peck, to J. C. Hastings, for Fredrica Bremer variety; for the second best, to Isaac B. Baxter, for Duchesse d'Angouleme. Apples—for the best half peck, to Jno. Perkins, for Fall Pippin; for the second best, to the same, for Autumn Pearmain. And special premiums—one of two dollars to Samuel Walker, for nineteen varieties of pears, and one of one dollar to Matthew Mackie, for specimens of Sheldon, Huron, and Wisner pears.

By the committee on vegetables. For the best Tomatoes, to Jas. Jones. For the best Peas, to Anthony Felten; for the second best, a different variety, to Anthony Felten. For the best Bush Beans, to Anthony Felten, jr.; for the second best, to Anthony Felten; for the best and most interesting display by a commercial gardener, to Anthony Felten, jr.; for the third best, to the same; for the best display by an amateur gardener, to Maurice Finn, gardener to Jno. Lambert; for the second best display, to John Gallagher, gardener to Miss Gratz.

The committee appointed to award the premiums in the 22d autumnal exhibition, held on the 15th, 19th, and 20th ult., submitted their reports, which were read and approved.

Delegates appointed to visit the Cincinnati Horticultural Society, and the West Philadelphia Horticultural Society, submitted reports.

Members Elected.—Chas. Henry Fisher, R. B. Jones, jr., Sarah Hammersly, Jacob B. Ritter, Jacob Fry, Z. Leeke, Walter Patterson, W. S. Cleavenger, Samuel Field and E. Yunger.

Adjourned. Thos. P. JAMES,
Recording Secretary.

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NOVEMBER, which is one of the least interesting months to those who come into the country to admire the freshness of spring or the fullness of summer and early autumn, is one of the most interesting to those who live in the country, or who have country places which they wish to improve.

When the leaves have all dropped from the trees, when the enchantment and illusion of summer are over, and "the fall" (our expressive American word for autumn,) has stripped the glory from the sylvan landscape, then the rural improver puts on his spectacles, and looks at his demesne with practical and philosophical eyes. Taking things at their worst, as they appear now, he sets about finding out what improvements can be made, and how the surroundings which make his home, can be so arranged as to offer a fairer picture to the eye, or a larger share of enjoyments and benefits to the family, in the year that is to come.

The end of autumn is the best month to buy a country place, and the best to improve one. You see it then in the barest skeleton expression of ugliness or beauty—with all opportunity to learn its defects, all its weak points visible, all its possible capacities and suggestions for improvement laid bare to you. If it satisfy you now, either in its present aspect, or in what promise you see in it of order

and beauty after your moderate plans are carried out, you may buy it, with the full assurance that you will not have cause to repent when you learn to like it better as seen in the fresher and fairer aspect of its summer loveliness.

As a season for rural improvements, the fall is preferable to the spring, partly because the earth is dryer, and more easily moved and worked, and partly because there is more time to do *well*, what we undertake. In the middle states, fine autumnal weather is often continued till the middle of December; and as long as the ground is open and mellow, the planting of hardy trees may be done with the best chances of success. The surface may be smoothed, drains made, walks and roads laid out, and all the heavier operations on the surface of the earth—so requisite as a groundwork for lawns and pleasure grounds, kitchen or flower gardens—may be carried on, more cheaply and efficiently than amid the bustle and hurry of spring. And when sharp frosty nights fairly set in, then is the time to commence the grander operations of transplanting. Then is the time for moving *large trees*—elms, maples, etc.; a few of which will give more effect to a new and bare site than thousands of the young things, which are the despair of all improvers of little faith and ardent

imaginations. With two or three "hands," a pair of horses or oxen, a "stone boat," or low sled, and some ropes or "tackle," the removal of trees twenty-five feet high, and six or eight inches in the diameter of the stem, is a very simple and easy process. A little practice will enable a couple of men to do it most perfectly and efficiently; and if only free-growing trees, like Elms, Maples, Lindens, or Horse Chestnuts, are chosen, there is no more doubt of success than in planting a currant bush. Two or three points we may, however, repeat, for the benefit of the novice, viz., to prepare the soil thoroughly, by digging a large hole, trenching it 2½ feet deep, and filling it with rich soil; to take up the tree with a good mass of roots, enclosed in a ball of frozen earth;* and to reduce the *ends* of the limbs, evenly, all over the top, in order to lessen the demand for sustenance, made on the roots the first summer after removal.

This is not only the season to plant very hardy trees; it is also the time to *feed* those which are already established, and are living on too scanty an income. And how many trees are there upon lawns and in gardens—shade trees and fruit trees—that are literally so *poor* that they are *starring to death*! Perhaps they have once been luxuriant and thrifty, and have borne the finest fruit and blossoms, so that their owners have smiled, and said pleasant words in their praise, as they passed beneath their boughs. Then they had a good subsistence; the native strength of the soil passed into their limbs, and made them stretch out and expand with all the vigor of a young Hercules. Now, alas, they are mossy and decrepid—the leaves small—the blossoms or fruit indifferent. And yet they are not old. Nay, they are quite in the

prime of life. If they could speak to their master or mistress, they would say—"first of all, give us something to eat. Here are we, tied hand and foot, to one spot, where we have been feeding this dozen or twenty years, until we are actually reduced to our last morsel. What the gardener has occasionally given us, in his scanty top-dressing of manure, has been as a mere crust thrown out to a famished man. If you wish us to salute you next year with a glorious drapery of green leaves—the deepest, richest green, and start into new forms of luxuriant growth—*feed us*. Dig a trench around us, at the extremity of our roots, throw away all the old worn out soil you find there, and replace it with some fresh soil from the lower corner of some rich meadow, where it has lain fallow for years, growing richer every day. Mingle this with some manure, some chopped sods—anything that can allay our thirst and satisfy our hunger for three or four years to come, and see what a new leaf—yes, what volumes of new leaves, we will turn over for you next year. We are fruit trees, perhaps, and you wish us to bear fair and excellent fruit. Then you must also feed us. The soil is thin, and contains little that we can digest; or it is old, and "sour" for the want of being aired. Remove all the earth for several yards about us, baring some of our roots—and perhaps shortening a few. Trench the ground, when our new roots will ramble, next year, 20 inches deep. Mingle the top and bottom soil, rejecting the worst parts of it, and making the void good—*very good*—by manure, ashes, and decaying leaves. Then you shall have bushels of fair and fine pears and apples, where you now have pecks of spotted and deformed fruit."

Such is the sermon which the "tongues in trees" preach to those who listen to them at this season of the year. We do not mean to poets, or lovers of nature, (for to them, they

* This is easily done by digging a trench all round, leaving a ball about four or five feet in diameter; undermining it well, and leaving it to freeze for one or two nights. Then turn the tree down, place the uplifted side of the ball upon the "stone boat;" right the trunk, and get the whole ball firmly upon the sled, and then the horses will drag it easily to its new position.

have other and more romantic stories to tell;) but to the earnest, practical, working owners of the soil,—especially to those who grudge a little food and a little labor, in order that the trees may live contented, healthy, beautiful and fruitful lives. We have written it down here, in order that our readers, when they walk around their gardens and grounds, and think “the work of the season is all done,” may not be wholly blind and deaf to the fact that the trees are as capable, in their way, of hunger and thirst, as the cattle in the farm-yards; and since, at the oftenest, they only need feeding once a year, now is the cheapest and the best time for doing it. The very frosts of winter creep into the soil, loosened by stirring at this season, and fertilise, while they crumble and decompose it. Walk about, then, and listen to the sermon which your hungry trees preach.

TREES AND PLEASURE GROUNDS IN PENNSYLVANIA.

BY A MASSACHUSETTS SUBSCRIBER.

“I can spend days
Stretch'd in the shade of these fair-growing trees,
Watching the sunshine like a blessing fall—
The breeze like music wandering o'er the boughs—
Each tree a natural harp—each different leaf
A different note, blent in one vast thanksgiving.”

IN the days of CHARLES THE FIRST, the English were suddenly awakened to the necessity of planting trees, to recruit their exhausted forests, by the writings and example of EVELYN; from the acorns which he planted, sprang the “hearts of oak,” in which Nelson fought and gained his splendid victories. We, too, after wantonly destroying our woods for two centuries, begin to realise that they are not inexhaustible, as year by year the pine forests are gradually receding before the woodman's axe, until, with the snows of every winter, their camp fires are lighted nearer and nearer to the head waters of the great rivers of Maine, the most northerly portion of the country. With our extensive coal mines, we shall ever have a supply of fuel, or else I might stop to lament for the flickering wood-fires of our ancestors, whose happiness was indelibly associated with the domestic hearth; and to predict that we should, by the destruction of our forests, become as frivolous as the French, whose slight attachment to

home may perhaps be attributed to the scarcity of fuel; for how can the domestic virtues flourish where wood is sold by the pound, and where it is cheaper to spend the evening at the opera and *café* than in one's own house? But for us, there is no such danger; and it is principally for the purposes of ornament, the arts and manufactures, that the people should be encouraged to plant trees. To the admirers of EVELYN, of whom England is justly proud, I would point out men who have followed his example in our western world, holding them up for imitation, hoping thereby to induce some to take the worthy Scotchman's advice, to “stick a tree; it will ay' be growing while they are sleeping.”

Many urge, as a reason for neglecting to plant trees, the miserable excuse that they do not expect to live to receive either pleasure or profit for their pains; that here, where landed property changes hands so often, they have no interest in planting for posterity. To controvert this prevalent idea, I intend to

give an account of a visit I made to the farm of Mr. PIERCE, in Chester county, Pennsylvania. JOSHUA PIERCE was in the field when we arrived. He is an active man of about eighty, and still cultivates the ground; he accompanied us through his park, which he laid out and planted with the assistance of his brother. For an hour we wandered amid magnificent pines and firs, whose noble stems shot up to nearly a hundred feet,—the ground dry and smooth beneath the impervious branches, through whose dark-green canopy was shed a “dim, religious light,” as in the virgin forests of our northern states, where I have stood and heard with awe the wind sounding through the tops of the pines, like the tide of the restless ocean. Here nature’s diapason swelled the same universal note, while by my side stood the man who had planted and watched the growth of every twig.

Standing in this sylvan spot, with a long, double colonnade of trees from ten to fifteen feet in circumference on either side, it was strange to hear Mr. PIERCE say that he had cradled wheat on this field, but that as it was poor soil he planted it with peach trees, when, after being troubled for twelve years by boy’s stealing the fruit, he thought he would plant something that they could not steal, and began to form this arboretum in 1798; so that at the end of half a century it is probably the finest artificial park in the country. The soil was favorable to the growth of the trees, as Mr. PIERCE informed us that he had often compared his trees with some of the same species in the squares of Philadelphia, and found they had made a more rapid growth upward, by from one to two feet annually. At one time he stocked the place with deer; but the boys hunted them so that he was obliged to give them up.

Massachusetts abounds in fine isolated trees, which still bear the name of those who planted

them; as the *Henchman elm*, on Boston Common, the *Frye elm*, at Andover, and the *Aspinwall elm*, at Brookline. Yet, when compared with the alleys of splendid trees raised by Mr. PIERCE, they are looked at as a solitary CLAUDE or RAPHAEL would be by a connoisseur who has seen the riches of the galleries of the Eternal City. Here each tree is in itself perfect, and variety enhances the beauty of each. “The dark Norway pine,” with its branches sweeping to the ground, brings up visions of the cold snows of the north, of exile, suffering and death. The Cypress and Yew, though consecrated by the ancients to the dead, look light and airy beside it. It is indeed a mournful tree. Some weeping NIOBE must have been its mortal form, for whom the white pines and drooping larches breathe an eternal requiem. Awestruck beneath these funereal trees we stood; but as we wandered on, the glowing sunlight reflected from the broad leaves of the lofty Magnolia and Chestnut, brought with it feelings of joy and gladness. As far as we could see between the gray boles, wherever the sunshine penetrated, were young plantations springing up.

The most beautiful objects in the grounds, were two fir trees, which rose about thirty feet without branching, and above were of a perfect conical shape. Around the trunks of these, ivy had been trained, forming an inverted cone of brilliant green, in the numerous flowers of which a swarm of bees were reveling.

All this sylvan scenery, which I have described, was the work of two brothers—farmers, who tilled the soil for their support, and who have for many years enjoyed the fruits of their labors; and yet they did not begin until nearly thirty years of age. Who would not be proud to leave behind him such memorials, to keep his memory fresh? And yet how many gentlemen, as well as farmers, have

waste, uncultivated land, which, with a little expense, might be converted into similar sylvan retreats.*

BARTRAM'S GARDEN.—As I promised to give the readers of the Horticulturist an account of some other gardens that I visited in Pennsylvania, I cannot continue the series with one more interesting than that planted by JOHN BARTRAM, in 1728.

Those who reverence antiquities, feared that this spot, now a matter of history from associations connected with its founder, would be desecrated by modern innovation, and made a convenient landing for coal and lumber. Such a use of it seemed probable, when I visited it four years since; and I lingered under the fine Cypress, planted more than one hundred years ago by BARTRAM'S hand, and took, as I supposed, a last farewell of what so appropriately kept his memory green. But such auguries were premature, as I acknowledged when I once more beheld this stately tree, crowning with its magnificence the centre of the garden, and stood beneath its wide-spread branches with one whose name is indissolubly connected with that of BARTRAM, and to whose zeal in gathering up the memorials of that worthy pioneer of American botany, must mainly be attributed the preservation of the garden. For several years, the descendants of its founder have wished to dispose of it to some one capable of appreciating it, but have only recently succeeded in finding such a purchaser. ANDREW M. EASTWICK, of Philadelphia, into whose hands it has fallen, is now putting it in order, and intends to preserve it, a perennial monument of the taste and industry of our first native botanist.

Here flourish a greater variety of our indigenous trees, than can probably be found in any place of the same size; for JOHN BARTRAM travelled over nearly all the United

States then known, from Lake Ontario in the north, to the source of the San Juan in Florida. He explored rugged mountains, and almost inaccessible swamps; and from every excursion brought home trees, plants and seeds to ornament his cherished garden. So many years have now passed since it was laid out, that many of the trees are crowded from too close planting; and it will be necessary for the present proprietor to throw out some of the least vigorous.

One path, called the Dark Walk, was planted during JOHN BARTRAM'S lifetime by his son, with different species of the king of trees; among which are some fine specimens of the *Quercus macrocarpa*, *olivaciformis*, *alba*, *rubra*, and *heterophylla*. The latter variety, marked by its lobed leaves, was named by MICHAUX, "Bartram's Oak," as it was produced from an acorn of his planting. The original tree grew in a meadow at a short distance from the garden, and was cut down many years ago by mistake; but two trees, raised from its acorns, are flourishing near the oak walk, which, though they have lost the distinctive characteristic of the Bartram Oak, still differ from the *Q. phellos*; thus tending to prove Dr. GRAY'S theory—that the *Quercus heterophylla* is a hybrid.

Near the house, still flourishes the original *Petré* pear tree, planted 115 years ago, from seed sent from England by LADY PETRE, as that of a fine butter pear. In one of BARTRAM'S letters to COLLINSON, dated 1763, he says—"the pear, raised from LADY PETRE'S seed, hath borne a number of the finest relished fruit. I think a better is not in the world." To which the good old Quaker quaintly replies—"It has been thy patience to wait, but my pleasure to hear of the delicious pear, raised from LADY PETRE'S seed; but she, dear good woman, has gone to rest."

The tree this year was covered with fruit

* We thank our fair correspondent for making so fine a specimen of ornamental planting, known to us. EDV.

of good size, and is still esteemed, even in this age of fine varieties, as an excellent autumn pear. Although so old, it is not large; for the *Pyrus* is generally of slower growth, and attains a greater age, than any other fruit tree. One planted by Governor ENDICOTT, (who was the second Puritan magistrate sent over to Salem, in 1628,) is still growing on his farm at Danvers, Massachusetts, and bears a good crop of pears annually. This must be as old, if not older, than the STUYVESANT pear tree in New-York; for the renowned PETER exercised his gubernatorial functions full twenty years after our Pilgrim governor landed at Salem.

There is an anecdote, related by the descendants of the botanist, that WASHINGTON, who was a frequent visitor at the garden, was one day with the French minister regaling himself with this delicious fruit, when under the tree at their feet lay a cannon ball, upon which the Frenchman placed his foot, and asked the general what description of fruit it was, to which WASHINGTON very promptly replied—"Ah, COUNT, that is a fruit hard of digestion." Under an *Æsculus parva*, (Ohio buck-eye,) around which once twined in luxuriance a *Tecoma*, or trumpet creeper, whose lifeless trunk is still propped up, forming a sort of arbor, is the spot where the Father of his Country used often to sit. Retiring from the bustle of the camp, or the debates of Congress, he here held counsel with his friends. Perhaps many a secret march and sudden surprise was determined upon amid these sylvan shades; while around the warlike band hung the floral emblem of their calling—the scarlet trumpet flower—even in this quiet retreat, recalling to the soldier's mind the clang of martial music, with the battle-field's ensanguined hue. But more particularly was this a favorite resort of WASHINGTON when he held the office of President, and while Congress was in session at

Philadelphia. JEFFERSON lived on the opposite side of the river; and here they often met with FRANKLIN, and the prominent men of the day, to discuss the affairs of the infant republic.

"—— O could thou speak
As in Dodona once thy kindred trees
Oracular, I would not curious ask
The future best unknown, but at thy mouth
Inquisitive, the less ambiguous past!
By thee I might correct, erroneous oft
The clock of history, facts and events
Timing more punctual, unrecorded facts
Recovering, and mislaid setting right."

JOHN BARTRAM died a few days after the battle of Brandywine; and it was thought his life was shortened by the fears he entertained, that the British troops, in their retreat, might lay waste his darling garden, which he had cherished with so much care for more than half a century. His fears were groundless; for while the British were in Philadelphia, the garden held a protection from LORD HOWE, and was used as quarters for some officers of high rank, and was thus preserved intact, while many neighboring places were laid waste by the enemy.

There are four species of the *Magnolia* from the southern states, growing here, which are magnificent trees; and of the next genus, *Gordonia*, (this species of which was first discovered by WILLIAM BARTRAM, in Florida,) there is a fine specimen. *Rhododendrons*, *Kalmias*, *Halesias*, and many other beautiful shrubs, have attained a good size. At the northeast angle of the house, we noticed the exceedingly sharp spires of the *Paliurus australis*, or Christ's thorn; so called from the legend, which supposes that the crown the Jews, in mocking, placed upon the meek brow of our blessed Saviour, was composed of this plant. At the foot of the garden is a quaint, antique, stone cider-mill, hewn out of the living rock by the indefatigable botanist; it has long been disused, and lichens and mosses are now growing in the trough where

the pomace was once ground. The press was erected on a flat stone near by—the leverage attached to an old tree, now in decay. BARTRAM, with all his other avocations, had a fancy for working in stone. In one of his letters, he says that he had built three houses with his own hands,—blasting and hewing the rock himself. The garden house, built in 1731, is a fine specimen of solid masonry, with even some attempt at ornament around the bases and capitals of the pillars and the windows. An old man told my informant that he had often seen BARTRAM at work upon it by moonlight, after a day of toil. The date, with his own name and that of his wife, is carved upon it, and several other inscriptions. Here lived and died both father and son, JOHN and WILLIAM BARTRAM. Here, also, WILSON, the ornithologist, resided for some time; and it was through WILLIAM BARTRAM's encouragement and assistance that he was enabled to publish his work on American birds. In it he often speaks of this garden, where the book was prepared. The house, hallowed by these associations of over an hundred years, is now put in complete repair, and seems likely to endure the storms of more than another century, beneath the

sheltering vines and spreading trees planted by its founder.

.....

[Our fair correspondent must accept our thanks for her account of what we consider the most interesting garden in America, to every lover of trees. Many hours of profoundest admiration have we passed beneath its majestic shades; and we are heartily rejoiced to hear that this most venerable museum of trees has passed into the hands of a gentleman of taste, who can preserve, appreciate, and improve it. We trust he will permit all real lovers of trees to enjoy its beauty, and a very simple and easy mode of doing this—much practiced abroad—is that of giving tickets of admission at some place in the city of Philadelphia. This would prevent the influx of mere strollers, who would, perhaps, destroy the privacy of the place; for few persons would take the trouble to procure tickets in Philadelphia, to go over the Schuylkill three or four miles, except those really interested in the subject. We have known intelligent foreigners to declare the sight of the magnificent specimens of Cypress, Magnolias, Oaks, and other American trees in this Bartram Garden, an ample reward for crossing the Atlantic. ED.]

NOTES ON SOUTHERN HORTICULTURE.

BY ROB'T HARWELL, MOBILE, ALABAMA.

MESSRS. EDITORS—If you think the following notes worth publishing in your valuable paper you may do so. You will see by the heading that I have given myself a wide range, and I shall feel at perfect liberty to wander about in any direction, provided I keep inside the last clause of the text (horticulture.)

Our Climate and Soil for Fruit Trees generally.—As far as I have ascertained, it

is the opinion of a good many people that the climate and soil in the vicinity of Mobile, are both unfavorable to the production of fruits generally, and of some kinds particularly; in fact, it appears to be a given up point, that the fine kinds of cherries, apricots and northern plums, as well as some other fruits, cannot be successfully produced here.

The above conclusions may be correct, but I must confess that I am unable to perceive

sufficient reasons, on which to predicate such conclusions.

As far as climate is concerned, all that deciduous fruit trees require, is a sufficient length of spring and summer to bring forth and mature their different fruits, and then a sufficient season of rest in which to recruit their wasted energies and prepare for another spring and summer's fruit bearing. And both of these appropriate seasons we are blessed with, to a far better degree than are many other parts of the United States.

Our failure, then, to raise good fruits, certainly cannot be fairly attributed to the unsuitableness of our climate. If we would be successful in horticultural matters, we must turn our attention most decidedly to our soil. Trees must be fed as well as human beings; and it is well known, that in order to be healthy and vigorous, strong and active, human beings must have the kind of food that will give development to those faculties. It is just so with fruit trees. We might as well expect anything else from an apple tree, as to expect it to bear good apples without the proper food in quantity and quality to enable it to do so. The young roots of a tree, as so many mouths, will take up the soluble food within their reach, and carry it into every part of the tree in the shape of sap; and in this way alone can a tree be supported. It is perfectly obvious, then, that if we expect to have healthy fruit-bearing trees, our trees must have the right kind of food; and in my opinion there is but very little of this right kind of food to be found in the soil anywhere near Mobile, as a general thing.

How, then, shall we get the proper kind of food for our fruit trees? and how shall we administer it? The most reliable answer to the above questions, is, to find out from experiments; but in the absence of such experiments, I should, as food for fruit trees generally, prepare a compost, as follows: To

one cart load of the best soil, or swamp muck, I could get, I would add one bushel of good wood ashes, half a bushel of shell lime, and, for sandy soils, half a cart load of clay—and in the same proportion for all the compost I might want; a small quantity of common salt might also be added. Let all the materials be well mixed together, and after lying in a heap for a few weeks it will be fit for use.

To apply the above food properly, I would prepare the holes in which I intended to plant my trees, from $3\frac{1}{2}$ to 4 feet square, (the larger the better,) and about from 6 to 8 [16 to 18] inches deep; then put in compost, or the surrounding soil if good, until the hole is one-third full, leaving the middle somewhat the highest. On this compost or good soil, I would set my tree, having all bruised roots previously cut, so as entirely to remove the injured part, with a smooth slanting cut at the bottom of the affected root. Let every root be placed, as far as possible, in a natural position, without any cramming or jamming; then throw on compost, mixing it well with all the roots, until the hole is level full; then draw on some of the surrounding soil, so as to leave the work a little above the level of the ground around, and leave it rather in the basin shape, so that the rain when it falls may settle down among the roots. I would also plant my trees very shallow; if the upper roots were covered an inch or two I should be satisfied, as no fruit tree can do well unless its roots are near the surface of the ground.

After pursuing the foregoing plan, I should conclude that I had given my trees some good food to start on, and that I had put it in a position to be made available by the young roots, whenever their appetites led them to partake of it.

As my trees advanced in age and size, I would continue to feed them on similar food, made somewhat stronger, as they advanced in

years; applying the food during the fall or winter to the surface, immediately over the spreading roots, slightly forking or digging it in.

No one need expect fruit trees to thrive and do well on natural soil that will not produce good corn; and even on good soils, they will from time to time need applications of compost containing wood ashes, &c. Good swamp mud is, I think, decidedly preferable as the basis of any compost that may be prepared for fruit trees.

Northern Peach Trees.—It appears that in the last year or two, there has been almost an entire failure in the fruiting of all the peach trees brought from the north, east and west; in consequence of which, public opinion seems now to set strongly against them; and whether this opinion has been properly founded or not, is a matter that I think deserves some examination, which I will very briefly attempt to do.

Every body who has cultivated northern peach trees, has not failed to observe how tenaciously they cling to their northern habit of blooming late in the spring, and to this very fact is to be attributed all the failures that have occurred, so far as I have observed.

In the spring of 1849, my northern peach trees began to blossom about the last of March and first of April, and on the 15th and 16th of April the weather was nearly as cold as at any time during the previous winter, which, as a matter of course, killed all the young fruit that had shed the blossom, as well as all that was in bloom.

In the spring of this year (1850) my northern peach trees were more tardy in preparing to blossom than they were last year. About the 20th of March I could just discover that the fruit buds had begun to swell a little. Eight days after this (28th March) we had an excessively cold day and night; this severe cold, as might have been expected, killed all

the fruit in the bud. I had a great number of trees loaded with fruit buds, nearly ready to open, and so dead were they killed that they remained in that half expanded state until they were forced off by the general rush of sap late in the spring. I examined a great many of those fruit buds with my knife, and found that they were perfectly dead.

I think the foregoing observations will sufficiently explain the failure of last year and this year, with our northern peaches.

Our native peach trees always blossom very early in the spring, very often in February, and to this alone were they indebted both last year and this year for their partial success. The main and only drawback to our success with our northern peaches, is certainly to be found in their late habit of blooming. And if we can invent any plan by which we can coax them to blossom two or three weeks sooner in the spring, we can have plenty of the very finest peaches.

The Stock and Graft.—I have found by experiments made, that the graft has almost entire control over the stock in all cases. I have cherries growing on Chickasaw plum stocks, and as this plum is one of our very earliest fruit trees to put out in the spring, we would very naturally suppose that such stocks would give our cherry trees an extra early start; not so, however,—the stock will throw out thrifty shoots and grow rapidly, while the cherry part will look just like winter, until the same variety of cherries in the orchard begin to bud. It will then put out and grow rapidly.

Peaches on Plum Stocks.—Peaches unite very readily with our native, or Chickasaw plums, which will no doubt prove to be the very best stock on which peaches can be grown, with us at least. The roots of the plum are much more hardy and fibrous than the peach, and extend far in every direction in search of food.

Foreign Grapes.—Cultivators of the grape, I believe, have nearly given up trying to raise foreign grapes in the open air. I have been trying twelve or fifteen kinds for one or two seasons, but have not succeeded, as I expected. I have found out, however, that it is the exposure of the foliage and young grapes, to the rain and dews, that induces the rust among the foliage and mildew among the grapes. I have two or three vines of the Black Hamburgh, trained beside my piazza, where the rain is kept from falling on the fruit or foliage, and in this situation they ripened their fruit this season as perfectly as any grapes I ever saw. From this I infer that they can be grown successfully on a trellis, with a covering on the top, extending over eight or ten inches on each side of the trellis.

Influence of the Sun on Fruit Trees.—I have lost a number of fruit trees in the last few years, from the severe heat of the sun's rays during the months of July, August and September. The part of the tree that receives the injury, is that part of the trunk that faces the sun at from 1 to 2 o'clock. The leaves of the tree thus injured soon begin to turn yellow, and some will fall off; and on examining the tree, the roots will have the appearance of having been scalded. A recovery from this state rarely ever takes place. I find that my apple trees have suffered more in this way than all my other kinds of trees together. A sure remedy, in my opinion, is to leave the trunks of all fruit trees very low or short; from one to two feet is long enough for the trunk of any fruit tree. When they are trained in this way, the trunk and the surrounding ground are shaded and protected by the branches; the earth and roots of the tree are kept cool and moist, and its vigor very much increased.

The Curculio.—This little insect is more to be dreaded by fruit growers than all other enemies combined. He is a little wholesale

destroyer that we cannot guard against; in fact, it takes close watching to get a sight of one, and I will venture to say that there are quite a number of persons, raised in the midst of fruit in abundance every year, and who have lived to be 50 years old, and never saw a curculio, although the fruits in their orchards have been more or less destroyed by them every year. They have seen wormy peaches in abundance, but the master of ceremonies has kept out of sight.

The curculio is some larger than the black wheat weevil, and has somewhat its appearance. It makes an incision with its bill on the surface of the fruit, in the shape of a half moon; it then deposits one or more eggs, and turns again with its bill and neatly closes the wound, and leaves the egg to hatch and the young worm to commence his work of destruction. The manner in which the incision is made in the fruit, is calculated to inspire us with great respect for the good sense and foresight of the curculio. If the cut in the fruit was made straight and an egg deposited in it and closed over so neatly, the daily increasing size of the fruit would open the incision, and the larvæ would be lost.

If the young worm, the product of the egg laid in the fruit, should eat into the stone of the fruit before the stone becomes hard, the fruit falls to the ground, the worm continues in it until it is grown, and then goes out of the fallen fruit into the ground to be transformed in due season into a curculio. If the stone of the fruit should be hard when the worm reaches it, the fruit will not fall prematurely, but the worm will remain in it until grown and then cut its way out and fall to the ground, to undergo its change from a worm to a curculio. I have seen one or two worms in the act of coming out of the peach while on the tree.

I will now close for the present, but may, by your leave, continue these scattering notes

again. There seems to be a growing love for horticulture among our people, and I trust that it may continue to increase. I want to see every body cultivating trees and flowers for the pure love of them.

ROB'T HARWELL.

Cottage Hill, Oct. 25th, 1850.

REMARKS.—The foregoing interesting remarks on horticulture about Mobile, by our

correspondent Mr. HARWELL, we borrow from the *Alabama Planter*.

We do not quite understand how peach trees, which bloom *early*, are more certain in setting fruit than those which bloom *late*. It is exactly the reverse here at the north. Will Mr. HARWELL explain the fact, which has been mentioned once or twice before in southern journals? ED.

REMARKS UPON TASTE.

BY J. C. LOUDON.

THE following remarks, originally written by the late J. C. LOUDON, Esq., for the Architectural Magazine, are so interesting that we re-publish them for the benefit of many, whose ideas upon the subject of Taste, applied to the Fine Arts, are somewhat vague and indefinite. ED.

We have stated that, architecture being chiefly an art of reason, all persons of common sense may acquire a just and a correct taste in it; but as architecture is also, to a certain extent, an art of feeling and imagination, a perfect taste in it must not only be just and correct, but delicate, intense and refined. Delicacy and intensity depend principally upon organisation; and refinement, conjointly on organisation and intellectual cultivation. We shall first offer a few remarks on each of these qualities as far as they relate to taste; and next point out some of the causes which operate on individuals so as to prevent the taste of any one from attaining that perfection which ought to be the *beau idéal* of all our endeavors.

A delicate taste, it will be evident to every one, must depend on the delicacy of the organisation of the individual; it cannot, therefore, be communicated by instruction, except in a very limited degree. It is very difficult

for a person, who is without delicacy of taste in any art, to conceive what it is, and in what manner it operates on any individual. Some idea, however, may be formed by every one for himself, by reflecting on the difference between common feeling, in any matter where the passions or affections are concerned, and what is called delicate feeling. The difference between an ordinary taste for architecture and a delicate taste, is not less great than between common and delicate feelings in ordinary life. A delicate taste in architecture will be sensibly affected by objects and details which would pass unnoticed by those who had merely a general taste, or even a taste just and accurate. To recur to the example we formerly gave of a Corinthian portico: a man of just taste would approve of it as a whole, and, if his taste were also correct, he would examine and approve or disapprove of the details; while a man who to a just and correct taste adds a delicate one, would be sensibly affected by the mass of deep shade produced by the projection of the portico from the body of the building; the soft gradations of shadow on the dark side of each particular column; the lights softening into these shades on their light sides; the contrasted forms of the mouldings in the cor-

nices; and the harmonious blending of light and shade among the foliage and other ornaments of the capital. Delicate taste is affected in this way, merely from the impressions made upon its organisation by the forms presented to it, without reference to the historical associations, either general or individual, which are, or may be, connected with a Grecian portico; but, when these are taken into consideration, there are a thousand ideas that will arise in the mind of the spectator of delicate taste, that would not occur either to the general observer, or to the observer possessing a taste in architecture merely just and correct.

The intensity of taste, like the intensity of passion of any kind, depends also on the organisation of the individual. Passions and affections, every one knows, may be strong, without being delicate; and their strength will be found to depend chiefly on the strength of the organisation, or, in some cases, perhaps, upon the excitability of the nervous system. At all events, no one will deny that neither delicacy nor intensity of feeling can be communicated by instruction; though these feelings, like all others, may be so far taught as to be stimulated by those by whom they are unfelt. Intensity of feeling, in the common matters of life, is indicated by the party being so enraptured with some one single quality in an object, as to overlook all the others; or with the general impression, so as to overlook the beauties or faults of the details. In architecture, intensity of taste is evinced by the rapturous admiration of a building, for the display of some particular quality which characterises it; say, for example, its grandeur: and this rapture is, perhaps, carried to such an extent, as to prevent the party from seeing faults that would be obvious to a taste which did not possess intensity, or which, to intensity, added a certain degree of delicacy and correctness. Intensity of feeling with respect to any art, when the party possessing it is

willing to submit to intellectual cultivation, may generally be considered as the prototype of excellence; but, on the other hand, when this intensity of feeling is so great as to overpower the judgment, and when the will of the party is too weak to submit to that degree of intellectual cultivation which would bring it under due control, it becomes a positive defect in taste.

A refined taste is one which is naturally either delicate or intense; and which has been purified and corrected by the exercise of reason and reflection. There can hardly be such a thing as a naturally refined taste; because the very idea of refinement implies the exercise of cultivation; or, in other words, the power of controlling and adjusting feelings and sentiments, by a consideration of all the various circumstances to which they are related. In general, it may be stated that no first feeling is to be depended upon, until it has been tested by an appeal to the reasoning faculties. First tastes, first passions, and first feelings of every kind, whether they are delicate or intense, are always more or less indiscriminate. A young enthusiastic architect is in raptures with whatever comes before him. He gives way to the excitement of his feelings, because these are keenly alive to impressions; while his reasoning powers are, in a great measure, dormant, from his being deficient in knowledge of those principles of architecture by which alone the reason, as it relates to that art, can be exercised. There is always, however, hope for enthusiasm; as it is seldom found unconnected with considerable powers of mind. Wherever we find a delicate taste, therefore, or even an intense one, however crude it may be at first, if the party be endowed with common sense, and willing to improve, it may be rendered a refined one.

A perfect taste, it thus appears, includes, a just taste, which is one founded on reason;

a correct taste, founded on rules ; a delicate taste, founded on a delicate organisation ; an intense taste, founded on powerful passions or affections ; and a refined taste, founded on intellectual cultivation, superadded to delicacy or intensity of feeling. No one person can have any taste in architecture, whose taste may not be classed under one or other of these heads ; and no one can have a taste approximating to perfection, in which all these qualities are not united in a greater or less degree. The union of these qualities in the same mind may be considered as the *beau idéal* to which the artist and the critic ought to aspire ; but which, from the conditions inseparable from human nature, he can never absolutely attain.

The principal circumstances which prevent individuals from attaining a perfect taste in architecture, may be included under the heads of locality, education, public opinion, fashion, and received prejudices.

The influence of *locality* on a taste for architecture, is much greater than might be at first sight imagined. If we suppose an individual with a taste just, correct, delicate, intense, and refined, living in a country where any particular style of architecture prevailed, we must perceive that he would hardly be able to avoid certain prejudices in favor of that architecture. For example, if he lived in a country where almost all the churches and cathedrals were in the Gothic style, as in England, he could hardly avoid entertaining an opinion that that style is particularly adapted to churches and cathedrals ; and if he went to Italy, or to Russia, where he would find ecclesiastical buildings everywhere built in the Grecian or Roman manner, he would consider them gloomy and unsuitable. In like manner, a man of architectural taste, living in a country where the houses have flat roofs, or roofs of very low pitch, as in the higher class of dwelling-houses in Italy and

England, could, if he were travelling through a country where all the houses were high-roofed, as in the greater part of Germany, hardly avoid disliking them, from his prejudice in favor of low roofs. The Italian artist who was the biographer of Winkelmann relates that he, though a German, after residing many years in Rome, occupied solely with the study of the fine arts, became so prejudiced in favor of flat roofs, that, when passing through Switzerland, on his road to his native country, he could not be reconciled to the high roofs of the cottages, though he was told that they were necessary to prevent the snow, when melting, from penetrating the roof. Now Winkelmann appears to have been a man, notwithstanding his prejudices, whose taste was both intense and refined, though it was far from being just, as may be learned from the following passage :—

“ From Verona, we proceeded to the Tyrolean Alps. When we reached the first defile of the mountains, I observed that Winkelmann suddenly changed countenance : he then said to me, in a pathetic tone, ‘ See, my friend, what a horrible country ! what terrible heights ! ’ A short time afterwards, when we had entered on the German territory, he cried out, ‘ What poor architecture ! Look at those roofs, how steep they are ! ’ This he said with so much vehemence, as strongly to express the disgust with which these objects had inspired him. At first I thought he was jesting ; but when I found that he was in earnest, I replied, that the height of the mountains had a grandeur which charmed me ; and that, as to the steepness of the roofs of the houses, this ought rather to shock me, who was an Italian, than him, who was a German. ‘ Besides,’ continued I, ‘ we must judge of all things relatively ; in a country subject to heavy falls of snow, these high steep roofs are indispensable. ’ ” (*Vie de Winkelmann*, p. cxxviii.)

We see, by this example, that the great in

art and taste, as well as the great in wealth and worldly influence, are not more exempt from prejudices than the little. We consider it of importance to be aware of this; because the prejudices of those who are looked up to with respect, are apt to mislead men who cannot, like Winkelmann's Italian friend, exercise their reason.

It is easy to conceive the influence which the prevalence of any particular style in any given locality will have on architectural taste, however good it may be in other respects; and the same may be said, not only of the style of design, but of the manner of construction, and the materials of execution. A person with a just taste in architecture, living in a country where stone was chiefly used for walls, would not be at first reconciled to walls of brick, but would be obliged to control his feelings by his reason. Where thatch is the material with which cottages are generally covered, it is difficult to avoid considering slates and tiles as cold and unsuitable for cottage roofs. Many more instances might be given; but enough, we trust, has been said, to show the unavoidable influence of locality in modifying more or less the taste of individuals.

The influence which *education* may have in giving a bias to architectural taste is so obvious, as hardly to require illustration. An amateur who has had a classical education will prefer the classical architecture of the Greeks and Romans to the Gothic style of the middle ages; a young architect who has been chiefly taught the details of the Grecian style can hardly avoid preferring that style to every other; one who has been taught to consider the Doric as the most perfect of the Grecian orders will have acquired a prejudice in favor of all buildings where that order is made use of; and so of all other styles or orders, or variations of them. As travelling may be considered a part of education, the architect

of just taste, who has spent hours in exploring the architecture of caves in Egypt and India, or of tents in China, will look upon Egyptian and Chinese architecture with more favor, than the man, also of just taste, who has viewed them only through the medium of books.

That *public opinion*, or the prevailing taste of a country, has a considerable influence in biasing our taste, the opposition which is made by the public to innovations of every kind is a sufficient proof. At the present time, in England, the pointed style of architecture is approved everywhere, and by everybody; but, during the time of Charles II., when Roman architecture was universally admired, the pointed style was as universally censured and despised, both by architects and amateurs. Thus, in architecture, as in everything else, the influence of *fashion* is continually operating; and not only has public opinion, or the fashion of a whole country, great influence, but even the opinion or fashion of eminent individuals in that country. Thus, almost all pupils of architects have their taste more or less influenced by that of their master; and all courtiers by that of their sovereign. Every one knows that these things happen in all ordinary matters; and a very little reflection must convince them that they will happen also in matters of taste.

The received prejudices of a people or a country, with respect to the application of particular forms of architecture to particular uses, have a strong influence on the taste. There seems to be no insuperable reason why a spire should not be made an ornament to a gentleman's house in the country; and, in many situations, it might be of considerable utility in pointing out the house at a great distance, or in forming the leading feature of a group, containing the different buildings which compose the dwelling-house and offices of a large mansion in the midst of an exten-

sive demesne; but this form, being generally employed in churches, is in some degree considered sacred, and consequently its employment in villas would be too great a shock to our received prejudices. A Christian church built in the Chinese style, every one must feel, would prove offensive.

In this manner we might pursue the subject of what writers on taste call accidental associations, to show how extremely difficult, or rather how impossible, it is, for any individual to have a perfect taste; and, at the same time, to show how numerous the chances are against any two persons thinking, in matters of taste, exactly alike. Independently of the difference in the organisation of individuals, there are, as we have seen, so many other causes operating upon them in different degrees, that it is hardly possible to conceive two individuals, even if they are of similar organisation and education, similarly operated upon by external circumstances. Hence, whenever we find two persons agreeing in taste, we may generally conclude, either that the taste of the one has been formed on that of the other; or, that the one gives way to the other, whenever their sentiments are different.

Every one's taste, therefore, is the natural and unavoidable result of all the different circumstances in which he has been placed; and hence he can no more alter it, on being desired to do so, than he can change any other opinion he has formed on any subject, without tracing back the steps which led to his forming it. Hence, the necessity of charity, or mutual forbearance, in all matters of taste; and the propriety, when we state our approval or disapprobation of any object of taste, of giving the reasons on which our opinion is founded.

In arriving at this conclusion, one object which we have in view is, to suggest what we think ought to be the proper language of criticism in matters of architectural taste. In

the first place, the terms good and bad taste, in an absolute sense, should seldom, if ever, be employed; since they must always be either good or bad, relatively to circumstances more or less limited. We would therefore qualify the term good, when so used, by adding another term expressive of the circumstances relatively to which it was considered good: such as, a good taste in Gothic architecture or in the Elizabethan style; or a good or bad taste in street buildings or in villas. We would prefer, however, substituting, for the term good, some term expressive of the kind of goodness: such as, a just taste in architecture generally; a correct taste in the Grecian style; a refined taste in the Tudor Gothic; a cultivated taste in Italian architecture, &c. In like manner, instead of the term bad taste, we would employ such expressions as servile taste, incorrect taste, crude taste, &c.; and, when speaking of a taste without reference to its being either good or bad, we would use such epithets as, taste of a particular age, master, or style, &c. In this way, when speaking either of the taste or judgment of an architect, or of the expression or construction of a building, we may always employ terms which shall be characteristic of the excellences or defects of the artist or object criticised; and not merely, like the terms good and bad,—words conveying no other idea to our readers or hearers, than that of our approbation or dislike.

Since the taste of no individual can be perfect, and since no two individuals are likely to agree in every respect in any matters of taste, what, it may be asked, are the comparative values of a just, a correct, a delicate, an intense, and a refined taste, supposing each to be equally free from accidental influences? Our answer is, that a just or reasoning taste is decidedly the best; since a greater number of persons are likely to understand arguments founded on reason and utility, than to agree in sentiment, or to possess the same degree of imagination.

MR. DOWNING'S LETTERS FROM ENGLAND.

DERBYSHIRE (you remember you left me at Chatsworth,) is so picturesque a county, that I drove about among its hills and valleys with the luxury of good roads and the easiest of private carriages. It is, indeed, only in this way that England can be seen or understood. To dash through such a county as this, where the details are all worked up into such perfect finish, is like going through a gallery of cabinet pictures at the speed of Capt. Barclay, or some "crack pedestrian," who performs a thousand miles in a thousand hours. Here is indeed a hilly country, where you get a glimpse of something new and interesting at every turn; and yet the roads are by no means those we are accustomed to see in such a district, but smooth and hard as a Macadam can make them. It would, however, amuse one of our expert Alleghany stage-drivers, who goes down a five mile mountain on a *full run*, to see an English coachman lock his wheels on such smooth and easy grades as these, among the Derbyshire hills. A proposal of such feats to an English driver as are performed daily in the Alleghanies, with the most perfect success and nonchalance, would be received by him with the same belief in your sanity, as if you should ask him to oblige you by swallowing the cupola of St. Paul's. On the other hand, the perfect neatness of dress (especially in snowy linen, and spotless white-top boots,) the obliging manners, and the careful and rapid driving (on those level roads) of a JOHN BULL who is bred to hold the reins, would be a stranger revelation to one of our uncouth looking drivers, than an explanation of the whole art of governing a monarchy.

These Derbyshire hills are, in some parts, covered with wood, and in others entirely bare, or rather only covered with grass,—af-

fording pasture to large flocks of sheep. As I drove amid long slopes and rounded summits, some 200 or 300 feet high, I was struck with the exquisite purple hue, like the bloom on a plum, with which some of the hill-sides were suffused in the soft afternoon light. A little nearer approach enables one to solve the riddle of the mysterious colour. The whole hill-side was thickly covered with purple heather, in full bloom, which, at a distance, gave it the seeming of having been dipped in some delicate dye. I cannot tell you how these hills, and the wild wastes and downs of England, covered with the delicate bells of the heath, affected me when I first saw them. When you remember, that with all the forest and meadow richness of America, not a single *heath* grows wild from one end of the country to the other, and that we scarcely know the plant, except as a delicate and cherished green-house exotic—a plant which every English poet has embalmed in his verse, and which is the very emblem of wild, airy freshness—you may believe me, when I tell you that a million, spent in gardens under glass, could not have given me the same exquisite delight, which I experienced in running over, plucking, and feasting my eyes upon these acres of wild heather. There are half a dozen species, with different shades of colour—white, pink, pale and deep purple; but the latter is the most beautiful, as well as the most common.

HADDON HALL.—Next to Chatsworth, Haddon Hall is the most noted locality in Derbyshire. As the two places are but a few miles apart, they form the best possible contrasts,—Chatsworth being one of the most finished specimens of the luxury, refinement, and grandeur of modern England, as Haddon is of the domestic abodes and habits of an English nobleman two hundred years ago.

Haddon Hall gives, perhaps, the best idea that may be gathered anywhere in this country, of the ancient baronial residence, *exactly as it was*. No part of this large castellated pile, (which is finely situated on the slope of a wooded hill,) is of later date than the sixteenth century. Its history is that of the VERNON family, who built and inhabited it for more than three centuries. Sir GEORGE VERNON, the last male heir, lived here in the time of ELIZABETH; and his magnificent hospitality and great establishment gave him the name of the "king of the Peak."

What struck me at Haddon, was the *realness* and the *rudeness* of those halls of ancient grandeur. There is not one alteration to suit more modern tastes—not a single latter-day piece of furniture—nothing, in short, that does not remind you of the solidly *material* difference between ancient and modern times. Vast chimney-pieces, with huge fire-dogs in them, for burning wood, large halls, with open timber roofs, instead of ceilings, wainscot covered with tattered arras, which hung loosely over secret panelled doors in the walls, rude and massive steps to the staircases, and clumsy, though strong, bolts and hasps to the doors,—all these, with many rude utensils, show that strength, and not elegance, stamped its character upon the domestic life, even of the great nobles in those days. Here is a house which held accommodation for upwards of four score servants, in all the luxury of the time; and yet, so great has been the progress of civilization, that many of our working men would doubtless think the best accommodation of those days but rough apartments to live in. The seats in the kitchen are of stone; and there must have been cold draughts in these great barn-like halls, that would make modern effeminacy's teeth chatter.

There is a singular charm about such a veritable antique castle as this, which perhaps

an American feels more strongly than an Englishman. It gives one the feeling of a conversation with the *spirits* of antiquity; and it has for us the additional piquancy, growing out of the fact, that we came from a land where such spirits are wholly unrecognized and unknown. To feel, that in this rude dining-hall the best civilization of the time flourished, and mighty barons, ladies and vassals feasted and revelled, long before the first settlement was made at Jamestown, is very much like being invited to smoke a cigar with SIR WALTER RALEIGH, or go to the Globe play-house with Manager SHAKSPEARE.

The terraced garden, too, is quaint and "old-timey." The special point of interest is "DOROTHY VERNON's Walk;" for it has both romance and reality about it. DOROTHY was the beautiful daughter and heiress of the last VERNON. The son of the first DUKE OF RUTLAND fell so violently in love with her, when she was but eighteen, that (his suit not being favored by her father,) he lived some time in the woods of Haddon, disguised as a gamekeeper; and finally, (during a masked ball,) eloped with the fair DOROTHY, heiress of Haddon, through the door from the long gallery, which leads down to this walk.

And this gives me the opportunity to say, that this marriage, of course, brought Haddon Hall into the family of the DUKES OF RUTLAND, who, for a time, inhabited it in great state; but about a hundred years ago abandoned it for their more modern residence—Belvoir Castle. Haddon Hall is, however, though uninhabited, wisely prevented from falling into complete decay by the present DUKE OF RUTLAND, and is open to the inspection of visitors at all times.

Matlock, considered the most picturesque spot in Derbyshire, is in the ordinary route of travellers, but would, I think, disappoint any one accustomed to the Hudson; as would, indeed, any scenery in England, (I will ex-

cept Wales,) in point of picturesqueness. The village of Matlock Bath is a watering place, nestled in a pretty, quiet dale, surrounded by rocky cliffs some 200 or 300 feet high. Excellent walks, charmingly laid out and well kept, sparry caverns, petrifying wells, with a mineral spring, make up the attractions of this rural neighborhood. The real beauty of Matlock, to my eyes—and it is the essentially English feature—is in the luxuriance of the vines and shrubbery that clamber over and enwreath every object—natural, artificial, and picturesque. A bare, rocky bank, unless it has great magnitude or grandeur of outline, is hard and repulsive. But let that same bank be covered with rich masses of ivy, and overhung with verdure of luxuriant shrubs and trees, and what was ugly and harsh is transformed into something exceedingly beautiful. In this respect, both climate and culture conspire to make English scenery of this character very captivating. The ivy springs up and grows readily anywhere; and the people, with an instinctive feeling for rural expression, encourage this and other drapery, wherever it is becoming. Strip away from the English cottages, that are so much admired, the vines that cover, and the shrubbery that embowers them, and they would look as bald and commonplace as the most ordinary rural dwellings in America. The only difference would be, that an English cottage, stripped of *drapery*, would show plain brick walls, and tile or thatch roof—ours, wooden clap-boarding and shingles. Architecturally, however, the English cottages—four-fifths of them—are no better than our own; but they are so *affectionately* embosomed in foliage, that they touch the heart of the traveller more than the designs of PALLADIO would, if they bordered the lanes and road-sides.

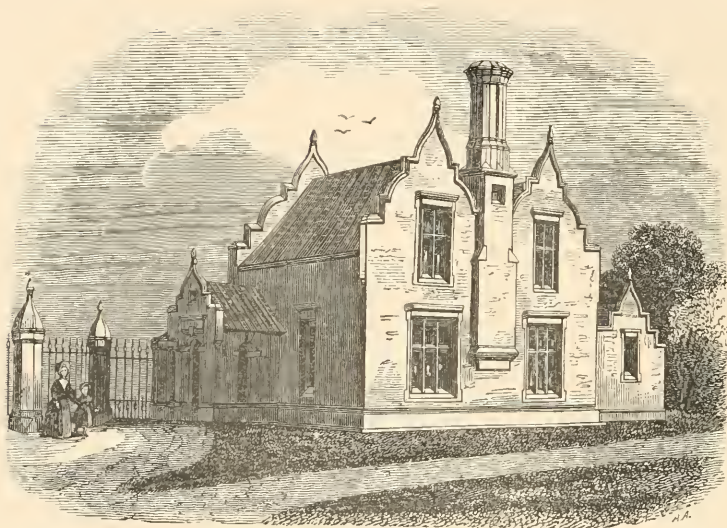
As no decoration is so cheap as vines, I was one day expressing my regret to an Eng-

lish landscape-gardener, that the ivy was neither a native of America, nor would it thrive in the northern states, without considerable care. "You Americans are an ungrateful people," said he; "look at that vine, clambering over yonder building, by the side of the ivy. It is, as you see, more luxuriant, more rapid in growth, and a livelier green than our ivy. It is true, it has neither the associations nor the evergreen habit of the ivy; but we think it quite as beautiful for the purpose of covering walls and draping cottages." The plant he eulogised was the Virginia Creeper, (*Ampelopsis quinquefolia*), an old favorite of mine, and which we are just beginning rightly to estimate at home as it deserves.*

THE DERBY ARBORETUM.—Derby is an interesting old town, and I passed a day there with much satisfaction. What I particularly wished to see, however, was the public garden or pleasure grounds, called the Derby Arboretum. It interested me in three ways: first, as having been especially formed for, and presented to the inhabitants of the town by their member of Parliament, JOSEPH STRUTT, Esq., a wealthy silk manufacturer here; then, as containing a specimen of most of the hardy trees that will grow in Britain; and lastly, as having been laid out by the late Mr. LUDON.

As a public garden—the gift of a single individual—it is certainly a most noble bequest. The area is about 11 acres, and is laid out so as to appear much larger,—the boundaries concealed by plantations, etc. There are neat and tasteful entrance lodges,

* Nothing can be more brilliant, as your readers well know, than the Virginia Creeper in the autumn woods at home, where it frequently climbs up the leading stem of some evergreen, and shines, in its autumnal glory, like foliage of fire, through the dark foliage of a cedar or hemlock. It grows in almost every part of the country, and will cling to walls or wood-work, like the ivy, without any artificial aid. We believe this vine is less frequently planted than it would be, from many persons confounding it with the poison sumac vine, which a little resembles it. The Virginia Creeper is, however, perfectly harmless, and may easily be known from the poison vine, by the latter bearing only three leaflets to a leaf, while the Virginia Creeper has five leaflets.



INTERIOR VIEW OF THE MAIN ENTRANCE TO THE DERBY ARBORETUM.

[Hort: Dec. 1850.]

(see FRONTISPICE for a view of the principal one,) with public rooms for the use of visitors, (where a lunch is provided, at the bare cost of the provisions,) and where books of reference are kept; so that any person who wishes to pursue the study of trees, can, with the aid of the specimens in the garden, quickly become familiar with the whole history of every known species. During five days in the week, these grounds are open to all persons without charge; and on the other two days, the admission fee is sixpence—merely enough to keep the place in good condition.

The grounds were in beautiful order, and are evidently much enjoyed, not only by the good people of Derby, but by strangers, and visitors from the neighborhood. I met numbers of young people strolling about and enjoying the promenade, plenty of nurses and children gathering health and strength in the fresh air, and, now and then, saw an amateur carefully reading the labels of the various trees and shrubs, and making notes in his memorandum book—doubtless, with a view to the improvement of his own grounds. Every tree or plant is conspicuously marked with a printed label, (a kind of brick set in the ground at the foot of the tree or shrub, with the name under a piece of glass, sunk in a panel upon the top of the brick;) and this label contains the common name of the plant, the botanical name, its native country, the year of its introduction, (if not a native,) and the height to which it grows. The most perfect novice in trees, can thus, by walking round the arboretum, obtain in a short time a very considerable knowledge of the hardy *Sylva*, while the arboriculturist can solve many a knotty point, by looking at the trees and plants themselves, which no amount of study, without the living specimen, would settle. Then the whole collection, consisting of about a thousand different species and varieties, is arranged according to the natural sys-

tem, so that the botanist may study classification, as well as structure and growth, with the whole clearly before his eyes. As the great point is to show the natural character of the different trees and shrubs, they are all planted quite separately, and allowed room to grow on all sides; and no pruning which would prevent the natural development of the habits of the tree or shrub, is permitted.

The whole arboretum was laid out and planted ten years ago—in 1840; so that, of course, one can, now, very well judge of its value and its effects.

That it is, and will be, one of the most useful and instructive public gardens in the world, there can be no doubt; for it certainly combines the greatest possible amount of instruction, with a great deal of pleasure for all classes, and especially the working classes. That it may appeal largely to the sympathies of the latter, even to those to whom all trees are alike, there is a fine piece of smooth lawn, (added, I think, to the original 11 acres,) expressly used as a *skittle ground*,—a favorite English game with ball; at which numbers of men and boys were playing while I was there.

As regards *taste*, I do not hesitate to confess my disappointment. There is no other beauty in these grounds, than what grows out of the entire surface being covered with grass, neatly mown, with broad straight walks through the central portions, and a series of narrower covered walks, making a connected circuit of the whole. The peculiarity of the design belongs to the *surface* of the ground. This was naturally a level; but in order to produce the greatest possible intricacy and variety, in a limited space, it was thrown up, here and there, into ridges from six to ten feet high. These ridges are not abrupt, but gentle; and the walks are led between them, so that even when there are no intervening trees and shrubs, you could not easily see a

person in one walk from another one parallel to it, though only twenty or thirty feet off. If these ridges, or undulations in the surface, had been cleverly planted with groups and masses of trees and shrubs, the effect would have been very good; but dotted as they are with *scattered* single trees and shrubs, the result is a little harsh, with neither the ease of nature nor the symmetry of art. If one looks at the Derby arboretum, therefore, as an example of Mr. LOUDON'S landscape-gardening, one would not get a high idea of his taste. But I believe this would not be judging him fairly, as I think he intended this place as a garden for instructing the British public in arboriculture, even more than as a specimen of public pleasure grounds. And every one who is familiar with botanical gardens, knows how ugly they generally are, from the very plain reason, that instead of planting only beautiful objects, they must necessarily contain a great mass of species, very uninteresting except to the scientific student.

I noticed one tree which was entirely new to me, and which I am sure will be a valuable acquisition to our pleasure grounds at home. It is the "hoary *Pyrus*," from Nepaul, *Pyrus vestita*,—a very striking tree, in its large foliage, which is dark green above, and hoary white below. It is very vigorous and hardy; the specimen about 30 feet high.

The Derby arboretum, altogether, as I learned there, cost above \$50,000. Considered as the creation and bequest of a private citizen to his townsmen, (and to the country at large,) it is certainly a magnificent donation. When one remembers what a gratification is afforded to the numerous inhabitants of a large town, *for all time to come*, by this arboretum, what a refreshment after a day's labor for those who have no garden of their own, what an instructive walk—every year increasing in extent—even for those who

have, what an attraction to strangers, and what a source of pride to the citizens to whom it especially belongs, one cannot but look upon Mr. STRUTT'S gift, as something done in the largest spirit of philanthropy. Quite as considerable sums have often been given by merchants in my own country, to found hospitals and asylums for the diseased in mind and body. Perhaps it may not be long before some one of them will follow the example of Mr. STRUTT, and form a public garden or park, as such places should be formed, and present it to one of our large cities or towns, now so much in need of it. Would it not keep his memory more lovingly fresh in the minds of his fellow men, and their descendants, than any other bequest it is possible to conceive?

THE BOTANIC GARDEN IN THE REGENT'S PARK.—As a *pendant* to this sketch of the arboretum at Derby, let me give you an outline of another garden in the midst of the Regent's Park, at the west end of London. It cannot, perhaps, be strictly called a public garden; it is, more properly, a *subscription garden*, as it was made, and is maintained, by about 1600 members, who either pay 20 guineas at the outset, or 2 guineas a year. The privileges they have, are the free enjoyment of the grounds, conservatories, etc., at all times, and the admission of their friends, (not more than two per day,) by tickets. As there is no other way of getting admission, (even the *fee*, that is so all-potent in most cases, does not prevail here,) of course, very few strangers ever see this garden—the best worth seeing, of its kind, perhaps, in all Europe. As I had, fortunately, been one of the honorary members for some years, I was glad to claim my rights, soon after my arrival in London.

The scene, as you enter the grounds, is extremely beautiful and striking, especially when you recall (what, without an effort, you would certainly forget,) that you are in the midst of

a vast city; or, at the most, barely on the borders of it. Here is a large, velvet lawn, admirably kept, the surface gently undulating, and stretching away indefinitely, (to all appearance,) on either side, losing itself amid belts and groups and masses of shrubs and trees, with winding walks stealing off, here and there, in the most inviting manner, to the right and left. At the end of the broad walk, at the farther side of the great lawn, which forms the central feature to the garden, stands a noble conservatory of immense size, with lofty curved roof; and on either side of it are small hot-houses, full of all the novelties of the day, and all the treasures of the exotic flora.

There cannot be a finer contrast, in point of tasteful arrangement and beauty of effect, than that which this garden presents to the arboretum at Derby. They were both formed about the same time, and the extent is not greatly different; the whole area of this place being only 18 acres.* Here, the utmost beauty, variety and interest are concentrated within these moderate limits. As you enter, you are struck by the breadth and extent of the broad velvet lawn. As you ramble about the finely planted and well grown walks, which form the border to this lawn—now quite concealed from all observation in a thicket of foliage—now emerging upon some pretty garden vista, and again opening upon a little separate nook, devoted to some single kind of culture, as groups of *Rhododendrons*, or American plants, or a flower garden set in turf, or a rock-work filled with curious alpine—you imagine you have been introduced into some pleasure grounds of 50 acres, instead of the moderate compass of less than 20. The surface is most gracefully undulating, so as to give that play of light and shade—those *sunny smiles*, so pleasant in a lawn, and to prevent your eye from ranging over too large

a sweep at one time; and though this variation of surface was, as I was told, wholly the work of art when the grounds were laid out, it has none of the stiff and hard look of the surface in the arboretum at Derby, but is charmingly like the most pleasing bits of natural flowing surface. I cannot, therefore, but believe that Mr. MARNOCK, the able Landscape Gardener who laid out this place, convinced me by this single specimen, that he is a man of great skill and refined taste in his art. I saw no *new* place, abroad, laid out in a more entirely satisfactory manner.

In order to give the garden a character and purpose, beyond that of mere pleasure grounds, (although enjoyment of it in the latter sense is the main object,) a botanical arrangement, and a medical arrangement of plants, are both very well carried out here—I believe for the use of the students of the London University. But instead of bringing these scientific arrangements into the pleasure ground portion, which meets the eye of the ordinary visitor of the garden, they are kept in one of the *side scenes*—quite in the background; so that though they add greatly to the interest, and general extent of the garden when sought for, they do not mar the beauty or elegance of its conspicuous outlines.

In the great conservatory, though the larger number of the plants were out in their summer quarters, the whole effect was still extremely pleasing, from the noble specimens of certain showy summer-blooming plants, growing here and there throughout the open space, which was elsewhere turned into a broad gravel walk. These were either gigantic specimens of *Brugmansias*, loaded with their great white trumpet flowers—enormous scarlet *Geraniums*, trained as *pyramids*, 10 feet high, and brilliant with bloom—rich *Passifloras*, and other vines, climbing up the rafters, or very finely grown exotics, in tubs or large pots.

* It gains greatly by being in the midst of the Regent's Park, with its boundaries concealed by thickets, over which the trees in the park make a pleasingly indefinite background.

Among the latter, I noticed with astonishment, *Fuchsias*, grown like standard roses to a wonderful size, running up with a perfectly straight stem *sixteen feet high*, and branching into a fine spreading or depending head of foliage, studded at every point with their graceful ear-drops. *Fuchsia corallina*, among several species, was much the finest, treated in this way,—its luxuriant dark foliage, and deep crimson-purple flowers being quite beautiful.

I saw here two rare plants, which will, I think, be very fine decorations to our gardens in summer. The first is *Habrothamnus elegans*; a plant from Mexico, which, it is thought, may stand the winter here.* It was planted in the ground here, and trained to a pillar some ten or twelve feet high. The end of every branch was loaded with clusters of fine dark pink flowers, (of the tint of a ripe Antwerp raspberry;) and I was told it blooms without interruption from spring to winter. The size, colour, and profusion of the blossoms are striking, and the whole plant is extremely showy. The second favorite is the *Cestrum aurantiacum*; a green-house shrub, lately introduced from Guatemala. It grows six or eight feet high, with fine luxuriant shoots, and is loaded all summer with rich clusters of *golden buff* blossoms—very ornamental. Both these plants made a grand display here in the conservatory, planted in the ground and trained to the columns; but if I am not greatly mistaken, both will thrive equally well in the United States, if turned out in the open border, and trained up to stakes like the Dahlia,—the roots being taken up and housed in winter.

The society of subscribers to whom this garden belongs, have two or three horticultural shows in the grounds, every year, which are among the most brilliant things of the

kind on this side of the Atlantic. On these occasions, the grounds are open to any one who chooses to purchase tickets, and are thronged by thousands of visitors. The display of fruits and flowers takes place in large tents and marquees, pitched on the lawn, and bands of music perform in the gardens. All the *élite* of the West End of London are here; for in London, horticultural shows are even more *fashionable* than the opera; and a gayer or more beautiful sight is not easily found. At the last festival of this sort, the great novelty was a magnificent plot, or garden of Rhododendrons, of all colours; the plants, in full bloom, were large and finely-grown specimens, sent beforehand from various nursery gardens 50 or 100 miles off, planted here in a scene by themselves, where they bloomed in the same perfection as if they had grown here for a dozen years.

I was exceedingly gratified with this subscription garden, and examined it in all its details with great attention. In its tasteful arrangement, its moderate extent, its management and its position, it afforded the finest possible type for a similar establishment near one of our largest cities. Here are 18 acres of the most exquisite lawn, pleasure grounds, and conservatory, wholly created and maintained by 1600 individuals, and enjoyed by, perhaps, 5 or 6000 persons more—their friends—at all times. Here is a fine example of the art of landscape-gardening, which, if it were near New-York, Philadelphia or Boston, so that it could be seen by those who are anxious to learn, would have a great influence on the taste of the country in ornamental gardening; here is the most perfect exhibition ground, for the shows of a horticultural society, that can be imagined or devised; and here is a scientific arrangement of plants, for the study of botanical and medical classes,—the living plants arranged according to the best system. Half the money which has

* I think Mr. BURST has introduced this fine plant, and has it in his nursery.

been paid annually into the credit account of the cemeteries of Greenwood, Mount Auburn, or Laurel Hill, would keep up in the very highest condition, (as this garden is kept,) one like it in the neighborhood of any of our cities. And the precincts of the Elysian Fields, near New-York—Brookline, near Boston—on the banks of the Wissahicon, near Philadelphia,

would be as fine localities for such subscription gardens as Regent's Park is for London. If our citizens, who have the money, could come here and see what it will do, expended in this way, I am sure they would not hesitate to subscribe the "needful."

Yours sincerely,

A. J. D.

London, August, 1850.

THE WINTER COVERING OF STRAWBERRY BEDS.

BY WESTCHESTER, N. Y.

NORTH of New-York, I think no experienced horticulturist will deny that strawberry beds are the better for a covering, to protect them from the severity of winter. It is not the cold, but the alterations of temperature, in winter, which seriously injure strawberry plants in the northern states. For this reason, in those parts of the country at the extreme north—as Maine or Vermont, where the ground is generally well covered with *snow* from November to April,—the strawberry is not half so subject to injury as in this part of New-York, or Connecticut, where the winters are often mild, and the ground bare, for half or the whole of the winter.

In clayey soils, the effects of severe freezing and thawing are *most* injurious; since in such soils the plants are actually uprooted, or "heaved out," by the action of the frost, so that all the plants, in a healthy and vigorous bed, are not unfrequently killed by this exposure of the roots which takes place. Therefore, in such soils, the greater necessity for some sort of covering to prevent this injurious action of the frost. I have uniformly found that when the beds were covered with straw, or litter, a couple of inches deep, the plants in the spring were in fine condition. Sometimes this is the case when no covering is laid upon the plants; but sometimes, and

I may say not unfrequently, the plants are wholly killed—and very often, as I am convinced from experiments, the crop of the season is half destroyed by the exposure of the plants during winter—even if the plants do not appear to be injured when the spring opens.

But I did not take up my pen to urge the necessity of protecting strawberry beds in winter, so much as to point out what I think a new and valuable material for this purpose.

This material is *tanner's bark*; a substance easily and cheaply obtained, if the cultivator is in the neighborhood of a tannery, and to be had, in many cases, for the mere trouble of drawing it away, after it has been thrown out of the vats at the tan-yard.

I have used it now for two winters; the first winter quite by mistake,—a strawberry bed being covered by mistake, in spreading tan for a new walk. The effect was so satisfactory, that last winter I did it by design, and in order to satisfy my own mind, *comparatively*. That is to say, I covered a certain number of beds with tan, and an equal number along side, and of the same sorts, with straw in the common mode.

The result was, that the beds covered with tan have been much finer, both in the health of the plants, and the size and flavor of the

fruit, than those covered with straw. The advantage of the tan, indeed, has been so apparent, that the beds covered with it, when compared with the others, had the appearance of having had an extra dressing of *manure*.

Is the tan-bark a manure for the strawberry, or is there something in the protection it affords to the plant in winter, which enables it to start with renewed energy in the spring? Yours, WESTCHESTER.

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REMARKS.—This appears to be a valuable

suggestion. According to analysis, as well as to recent experiments, reported in previous numbers of this journal, *tannic acid* is especially adapted to promote the growth of both strawberries and grapes; and the winter covering of tan, used by our correspondent, no doubt acts as a special manure for the plant. If this is correct, it might be well not to remove it at all in the spring; or, at least, to allow a slight covering to remain on the bed. This would also assist in keeping the fruit clean. Ed.

THE STRAWBERRY IN WESTERN NEW-YORK.

BY R. G. PARDEE, PALMYRA, N. Y.

PERHAPS few articles in the Horticulturist are read with greater eagerness by the mass of your readers, than those on the subject of the strawberry and its cultivation. In almost every village, especially in western New-York, a few individuals have become greatly interested in the production of this most delicious fruit.

It need not be thought surprising that great differences of opinion arise with regard to the various kinds of strawberries, and their cultivation, when we reflect that the plant is so very sensitive to climate, season, soil and culture. Some varieties appear to grow best on clayey soils, while others prefer loamy, gravelly, or sandy soils. A few miles distance often produces so great a difference in results, as to produce a marked discrepancy in the reports of cultivators. For instance, Hovey's Seedling bears bountifully, (with good care,) usually, (but not always,) in this place; while at a distance of only 25 miles, where I resided some 15 years, in a heavy clay soil, it was almost impossible to raise them, even on a mellow surface garden soil, while, on the

other hand, another strawberry which bears enormously there, obstinately refuses to produce even an ordinary crop here with the best attention. Consequently, before making large beds of any variety, I would carefully experiment in my garden with a few of the best kinds previously, in order to test them. I prefer to transplant my early runners the middle of July; for I can thus obtain a good crop of fruit from the plants the next spring, which I cannot do when the transplanting is delayed to a later day.

In our mellow soils, it does not appear to be *essential* to trench deep or manure freely our gardens, in order to raise the strawberry in perfection. I had in my garden last season, and also the previous one, the fruit of Hovey's Seedling in large quantities; and some of the berries, full five inches in circumference, growing on an ordinary garden soil, which had not in four years been manured at all, or spaded over ten inches deep.* Water-

* We suspect, however, that the natural depth and richness of our correspondent's soil, like that of many parts of western New-York, are such as to more than make it equal to trenched and manured soil in many other parts of the country. Ed

ing freely, especially while the plant is flowering and fruiting, seems to be more important.

We have been surprised to notice, in this place, that large beds of Hovey's Seedlings have borne largely during the past four successive years, although not a staminate plant was to be found within 200 feet, on a repeated close examination when in blossom. This variety at times refuses to bear in some of our gardens. It seems to be among the most fickle and sensitive of any we cultivate.

Burr's New Pine appears with us to combine more desirable qualities than any others we have yet been able to prove. The "Lord Spencer," a new staminate variety of medium size, great productiveness and hardness, and of the finest flavor, from Lord Spencer's garden, England, gives us promise, after four years' trial, of ranking next best. Another season's trial from a large bed, transplanted early in July, will most fully satisfy us with regard to the comparative value of this variety. Jenny's Seedling, Boston Pine, Crim-son Cone, Black Prince, and the Princess

Alice Maude bear well. The British Queen bears a fair number of magnificent berries, and I am unable to say whether it is more tender with us than Hovey's or not, inasmuch as I am accustomed to cover all my strawberries every fall with a slight covering of leaves or straw; for I find the most hardy varieties benefitted by this treatment. The Ross Phenix, Keen Seedling, Methven, Dundee and Large Early Scarlet, do not thus far give us satisfaction here, while, at Rochester, only 22 miles distant, the Large Early Scarlet is a favorite market fruit.

Many other varieties are in the process of being tested, and I doubt not, ere long, our country will be abundantly supplied with the most approved kinds of this most delicious and wholesome fruit; for some of our cultivators, on a large scale, assure me that three cents per quart will cover the cost of producing them in our favored soil and climate, when planted in rows and tilled with the cultivator.

R. G. PARDEE.

Palmyra, N. Y., October, 1850

WINTER PLEASURES IN THE COUNTRY.

BY "WILD FLOWER," CONNECTICUT.

DEAR SIR—Your kind reception of my letter in June, has prompted me to venture again on the forbidden ground of types; and if my feminine conscience whispers softly that I am venturing beyond a woman's place, I console myself with the child's excuse—"nobody sees me." So, panoplied in my dear obscurity, I desire your patience while I say a few words to my own companions in position—*country girls*.

I must leave the metropolitan dames to their own pleasures now, for summer has passed; operas have begun; concerts wear away the long evenings; and "la belle Nature" sighs, through the drooping willow

boughs, her last regret for the flower nymphs that once haunted wood, fountain, and sea-shore.

Yet I hear often strange utterances from the lips of my sisters in the country—regrets softly spoken, that they, too, cannot live in the bustle of a town. "The country is so stupid in winter! No woods to walk in, no flowers to gather, no excitement—nothing to see or hear!" Is it so stupid, my dear friends? May you not want a little light for your mental eyes? Is there no pleasure in the woods, when every step rustles in the dry leaves, or stamps its mark on the crisp snow, where the ground pine looks greener by contrast than all summer's lavish verdure,

and where, by the mossy trunk of some great tree, the scarlet berries scatter food for partridges, and "spread their table in the wilderness?" Or is there no pleasure in making preparations for the wintry sleep of your garden? (surely, you have a garden,) covering the tenderer plants with leaves or straw, till the kind snow shall cover them more surely—selecting frail Verbenas, and favorite Roses, for house treasures—or cherishing a little pot of Mignonette, to fill the warm parlor with its odor? Don't you love to watch the noisy, restless, strange creatures, the crows, wheeling about the gray trees, exulting on the strong wind as if it were a chariot, or perched on a rail, shining, and musing in the clear sunshine? There is to me a pleasure, when the eaves are dripping with a thaw, in standing by a barn-yard, and seeing the mild-faced cows enjoying the warmth of its snug, southern exposure; there they "chew the cud," which has in it no "bitter fancy," and look in your face so meekly but inquiringly, that you must think, whether you will or no, of "ox-eyed Juno;" and upon that suggestion, your imagination wanders off, and away through years and distance, till—a turkey struts and gobbles defiantly in one corner—or a solitary hen, picking her way, on yellow legs, flits across the yard, and showing off all her airs and graces to the stranger—brings you back to real life.

I think one reason why country girls find their homes dull in the winter, is the want of a keen sense of the Beautiful. This seems, perhaps, absurd; yet, when I see how much true and pure enjoyment springs from such a sense, and how little it is cultivated, I must regret it—too deeply to be silent. Many of you have a true appreciation of the Beautiful in literature; you enjoy books intensely, but you do not think of opening the same eyes, that grow weary over page after page of printing, to the deep interest of the varied stories of earth and sky. The winter sunsets, oh!

how splendid they are; even if no pile of gold and purple clouds lower in the west, yet the pure tints of azure-sea-green and yellow, that deepen to the centre of the sinking light, are most exquisite. Then come the hosts of night—the old, mysterious stars, trembling with concentrated brightness, and writing over the deep blue heaven wild legends of the past, dim prophesies of the future. The moon, too, casts the long shadows of tall trees and hills over the spotless snow, and, like a song of happy spirits, comes the distant sound of sleigh-bells, so mixed with laughter and clear voices you cannot separate them in sound or thought. Walking, too, is still delightful, if you will only wear thick and water-proof shoes; the scramble over a drifted road—the swift slide upon the glassy pond—even the more difficult accomplishment of "picking your way," when neither frost nor rain has supreme sway,—these all have the pleasure inseparable from an eager effort to conquer obstacles. Then, too, the strong north-west wind comes to steady the wavering steps; leaning against its pressure, how we become re-assured, as if suddenly supported; or fighting homeward in the face of its trumpet-like blast, how the whole frame thrills with intense life, as the quickened tide of vitality glows on cheek and lip. But I am getting too earnest on my hobby. A recent, short experience of city life, with its noises, sights, and confusion, has sent me home, to my own wide horizon and fresh air, quite unqualified to sympathize with those who are discontented in the country. I will not let Mr. DOWNING have another quiet smile over my pedantry, so I forbear to quote a certain dead language, that speaks of the "happy husbandman." I only may say, in plain English, that I wish you all, my dear rustic sisters, were as happy in being dwellers in the country, as your frost-bitten

WILD FLOWER.

In the Bushes, November, 1850.

THE NEW WATER LILY—VICTORIA REGIA.

SOME little conception of the grandeur of proportions of this plant—just now the wonder of the horticultural and botanical world—may be gathered from the accompanying sketch of the specimen at Chatsworth,—showing the tank, and the general appearance of this queen of aquatic plants.

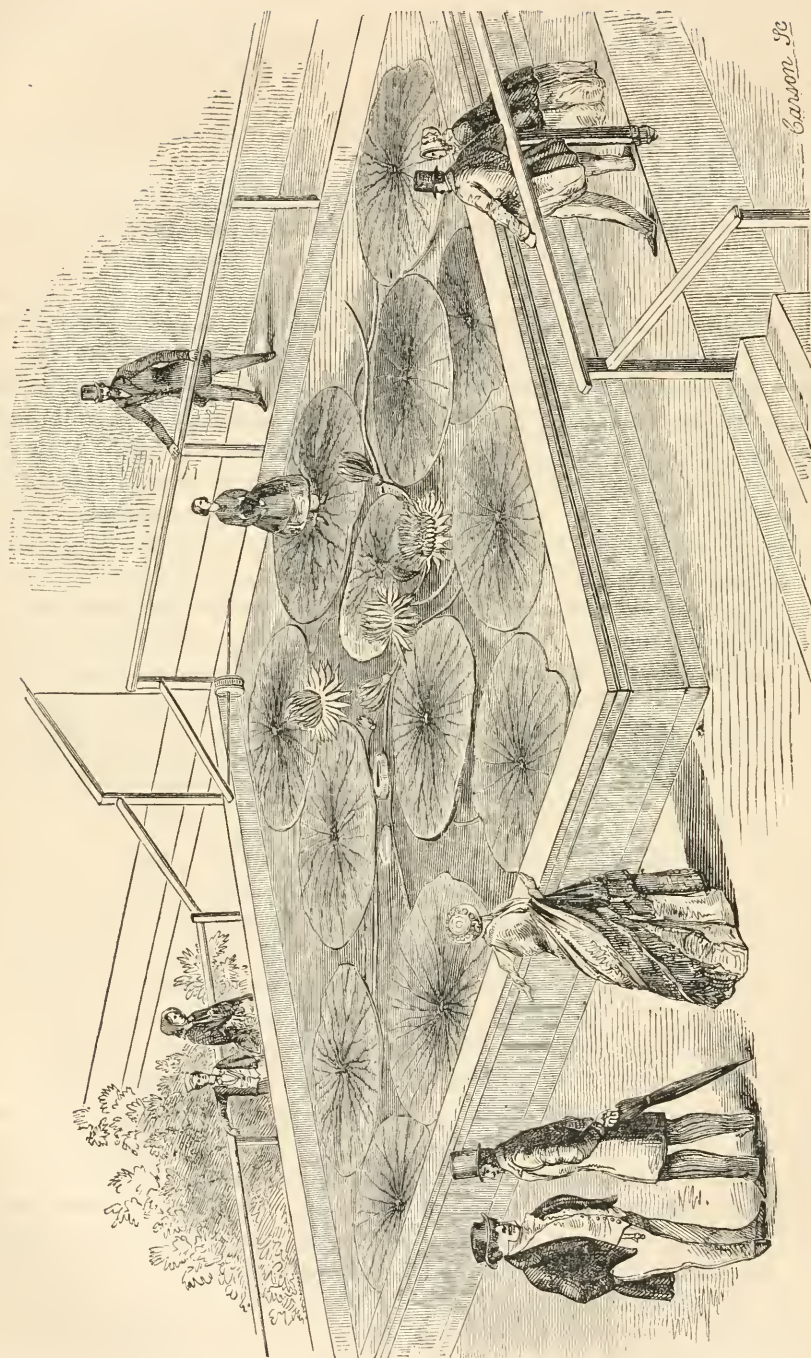
Of course, one never can get a perfect idea of the magnificence of this plant in its native localities,—the lakes and pools of tropical South America, even when, as in this case, an entire hot-house is built for its growth. But still, it is a grand and beautiful sight; and the size and proportions, so far as a single plant goes, are as fine as in its native habitat.

The successful cultivation of the *Victoria regia* may be taken as a proof of both the skill and the luxury of the art of modern gardening. An aquatic plant, which demands the atmospheric temperature of the equator, and at least twenty or thirty feet of space to extend its leaves, which requires to be grown in a pond of water, kept to the temperature of 85° Fahrenheit, and still more, to have this water gently agitated, to imitate the movement of a stream, would have been pronounced beyond the limits of cultivation by most persons. All this, however, joined to the accounts of its grandeur and beauty, only stimulated English amateurs; and while we were in England, we saw three fine specimens in full perfection of growth and blossom; one at the National Garden, Kew, one at Chats-

worth, the seat of the DUKE OF DEVONSHIRE, and the other at Syon House, the seat of the DUKE OF NORTHUMBERLAND.

There is something so gigantic about the proportions of this water lily—its foliage from four to six feet in diameter, and its flowers proportionably large—that, as one looks at it, one is more impressed by its grandeur than its beauty, although the flowers are beautiful in form and colour—pure white, tipped with red. The leaves are, however, so bold in structure, and the plant altogether conveys such an idea of strength and vigor, that it interests you as a new and gigantic race of lions would—a startling proof of what nature occasionally delights to do, as a specimen of her prowess.

We are glad to learn that CALEB COPE, Esq., the President of the Pennsylvania Horticultural Society, is about adding to his range of conservatories, (containing one of the finest private collections of exotics in the United States,) a hot-house to grow the *Victoria*; so that by next August we may, perhaps, have the satisfaction of seeing its superb blossoms expand in this country. The mere growth of the leaf, too, is interesting, since it increases in size at the rate of an inch of breadth per day, for a considerable time. It seems probable to us, as our summers are more tropical than those of England, that the *Victoria* may be found more easy of culture here than with our neighbors on the other side of the Atlantic.

Fig. 59 — *Victoria regia*.



THE CULTIVATION OF THE MELON IN FRANCE.

—The finest kind of this fruit is the Cantaloup, and is brought to great perfection in the environs of Paris, where it is produced in immense quantities. It is covered with tubercles or warts, from which appearances the French give it the distinctive *soubriquet* of "*Melon galeux*." This delicious fruit averages 7 or 8, to even 10 lbs. in weight, and exceeds 2 feet in circumference. The finest melons could be bought in Paris this season for 15d. and 20d. The method adopted by the best growers near Paris, among whom may be named Messieurs François and Decouplé, is as follows: When the young plant has formed its second or third leaf beyond the cotyledon, the stem is pinched off, or "*stopped*." The effect of this is to make it throw out two lateral branches, which again are stopped beyond their sixth or seventh leaf. The plant now comes into bloom, and as soon as the fruit is set, two, or at the most three, are selected as the most promising, and all subsequent ones are pinched off as they form, so as only to have this limited number on one plant, to preserve its vigor and increase the sap. The seeds of this melon are found to vegetate, even when transmitted to the East and West Indies, taken from the fruit as brought to table. They should be merely wiped and dried, but not washed. The French gardeners follow the same system in growing the immense orange-coloured pumpkin, or "*Potiron*," so extensively used to make vegetable soup on "*meagre days*." When it is desired to produce very large pumpkins, only one fruit is retained on each plant, all the others being suppressed. It may be well to mention, as the result of careful observation, that the climate of Paris enjoys a far greater portion of solar heat and light than the meridian of London. *Gardeners' Chronicle*. [We tasted these melons in Paris the past summer, and found them good, but much inferior to the "*Citron Melons*" of New-York. ED. HORT.]

ROSES IN POTS.—The treatment of roses in pots, such as China, Perpetual, Bourbon, &c., about which a correspondent inquires, must be according to the time he requires them to bloom in his green-house. Tastes differ; and we ought to be sure of our premises before we pronounce another man's taste to be bad, but we would prefer dwarfs trained in a conical pyramidal form to our correspondent's standards. We shall at present confine ourselves to the questions proposed,

leaving some other matters about roses for the green-house for another period, merely premising that to have plants of roses in good bloom in the winter months (and for this purpose the China and Bourbon group are about the best) the house must resemble a cool stove rather than a mere hibernatory for plants; in other words, the temperature should be from 50° to 55° instead of from 35° to 45°, and even then advantage should be taken of sunshine to raise the temperature at least five degrees more, or the flowers will not expand freely. True, you may gather roses out of doors in the commencement of winter when the thermometer is lower than the lowest point indicated, but then you have the assistance of energy stored up in the plant, and which you cannot reckon on after, say from the month of December to February.

Now, the first question with respect to these roses in pots is, "*Ought I to repot them?*" If so, when? and should I shake any of the mould from them?" The best time to repot such roses is after they have finished blooming; and if you have a succession of roses, there will thus be a succession of potting periods. There is a peculiarity in the mode of growth of roses in pots that renders this necessary. Whether upon their own roots or budded, the best roots have always a tendency to get to the bottom of the pots; and when plunged, unless great care is taken, they will get out "*by hook or crook*" at the bottom of the pot, and then when you raise them up you lose all the finest roots, instead of moving them within the pots where they would do good service. In potting, therefore, it is not only advisable to get rid of as much as possible of the old soil, but the stronger roots should be shortened that they may produce more middle-sized ones, and these in potting should be spread out, and receive an upward direction, and this should be encouraged also by surface mulching. The kinds referred to by our correspondent are many of them constant bloomers, and with moderate care they will easily be made to carry a few flowers; but when fine masses of bloom at particular periods are wanted more attention is required. Here we think it would be better to introduce our correspondent's second question, "*When should I prune them?*" because the time of doing so has much to do with the success; as here, as well as in most other cases, both processes should not take place simultaneously, but advantage should be taken of the shoot's own leaves to form fresh roots, and these when vigorous should be employed in forcing vigorous young

shoots after pruning had taken place. Hence, when some years ago I grew a number of China, and Tea, and Bourbon roses, to bloom in a warm conservatory from Christmas to April, the first flowering-ones, when done with, were removed to a pit, where they were protected from frost. In April or May they were repotted into fibry loam, enriched with old cow-dung, and kept in the pit until the roots had nearly filled the pots, when they were placed right in the sun in June and July, plunged in coal ashes, the flowers being chiefly removed, set against a north wall in August, kept rather dry, pruned by cutting-in the strong shoots in September, returned to a warm spot in the sun when the buds swelled, placed ultimately in the pit, and watered freely with manure-water, and then transferred to the warmest and lightest part of the conservatory towards the end of October.

Other successions just require less trouble. For instance, to bloom freely in March, the plants should be repotted in summer, shaded for a time from the sun, and then exposed to its influence, watered freely, the points of the shoots nipped, just to swell but not burst or break the lower buds, the pots plunged in ashes, old tan, &c., pruned in October, defended from frost, set in a heat of 45° in December, and gradually increased to 55° and 60°.

To bloom in April and May, the plants should be repotted in summer, plunged in a non-conducting medium, and, in the case of all the tenderer kinds the tops should be protected with fern, and be pruned in February, and then be gradually brought forward. Hardy kinds, about which there was no danger, had better be pruned in the end of autumn, as the buds would thus be better swelled. Without the half of all this trouble, we have had a good show in winter and spring, by merely thinning out the older wood, and giving rich top-dressing and manure-watering always several degrees higher than the air of the house, but I never had such a mass of flowers at one time.

Our correspondent will now judge for himself whether he will prune or not. If he can protect them, the sooner he does it the better. As to potting now, we decisively say no! because, without using artificial heat to plunge in, the roots would not be sufficiently in advance to cause the buds to break strongly, more especially if you wish for early flowers. Here the matter is very different from out-door planting. If partly pruned, as recommended by Mr. Beaton the other week, and then some time afterwards transplanted, there is plenty of time for fresh roots to be formed before a demand is made upon them by the shoots in April and May. Instead of potting, our correspondent should remove the surface soil, top-dress and give plenty of liquid manure when they are commencing growth, and afterwards. By these applications, a rose-plant, if the drainage is right, and the roots are prevented getting into the

plunging material, may be kept in vigorous health for years in the same pot.

The questions, "whether the plants should be taken into the green-house, when should they be taken in, or should they be plunged out of doors?" have been indirectly answered. If late flowers this year or early ones in 1851 are desired, prune out the smaller twigs and house them at once, if you have no turf or other cold pit to transfer them to. If spring flowers are what are wanted, keep them plunged and mulched out of doors, raising the mulch in a cone over the pit, so as to throw off a portion of very heavy rains; and unless you are certain of the perfect hardness of your varieties, do not prune until you wish to start them, by removing them under shelter, but rather tie some fern or twiggly branches of spruce over their heads. *Cottage Gardener.*

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ROSES.—For many years past I have gone over all our Perpetual roses about the middle of September, with a pair of gloves and a sharp knife, and give every one a particular kind of pruning; and I find the plan so very useful, that I would no more put it off, or do it earlier in the season, than I would give up pruning roses altogether. I believe one-half the best rose growers do the same, but, somehow or other, the thing has not become fashionable enough to be treated of in books or magazines; but I rejoice to see that many more things which we treat of for the first time in this—our friend *THE COTTAGE GARDENER*—soon take root, and wings and spread among our brethren—on *principle*, no doubt—for the good of others. If for no other reason, therefore, I would strongly recommend this subject to all gardeners, from the palace down to ourselves, as one of the most useful joints in the machinery for growing good late roses; we cut roses here from the open ground generally up to or down to Christmas; and I am quite sure that with a little pains now, there are many rose lovers who may gratify their taste, by taking a leaf out of our book.

Like everything else that is done in a garden, this should be performed, year by year, on some fixed plan. If you put a man to count straws only, you ought to make him do it, or tell him how to do it, systematically; and not allow him to put the counted ones in the bundle heads and tails. Money is no more the root of all evil than system is the root and branches of good gardening, and of good everything else that we do. Well, then, this system of managing to have lots of roses late in the season, is to begin about the end of May, when the flower-buds are three parts grown, and you can see which of them promise to have the finest blown roses; many of the "green centres" can then be detected; and if an insect or grub has nibbled the buds, that also can be seen, with other imperfections, if there be any. All such buds are pulled, or rather cut clean out with a knife—for I dislike very much pulling about any plant or part

of a plant—after that those buds that have only small shoots to support them are done away with, and by this time perhaps one-third of the whole crop is gone, and that is enough on good rose soil, where the plants grow very well; but on thin land, and where roses do but moderately, one-half of the flower-buds ought to be taken off, and the other half left on the best and strongest shoots to flower. Some people say, that if you want good late flowers, and to spare your plants, all the first show of flower-buds should be destroyed; and I have tried that many a time, but I do not believe in the doctrine at all, for I never could make out that half a crop in June did any harm to that of the October following. Others, again, cut back the shoots at the end of May, to get late roses, but that is an extraordinary bad fashion, which no one would indulge in who knew anything of vegetable life. It is just as if a farmer were to let his calves suck the cows dry, and expect to have cream and fresh butter nevertheless. The leaves being the representatives of the cows, the gardener who cuts down his roses in the middle of the growing season is that of the sucking calves, and the buds and full blown roses the cream and butter. Instead of two crops of roses by this system of cutting back the shoots at the end of May, the fact is, that the poor plants are forced to give three crops of moderate bloom instead of two good ones. At that early season the next bud or two below the cut part are in leaf in ten days, and in bloom by the end of June, so that cutting back hinders the autumnal crop very much, instead of easing the plants, as some knowing folks suppose.

The first crop is put off only three weeks in some seasons, and not more than a month or five weeks at any time; and cut as we may we cannot alter the nature of a rose-tree more than that of any other plant; and it is in the nature of Perpetual roses to make a fresh growth of wood as soon as a crop of roses is ready to cut for the button-hole or bouquets and glasses—no matter what time, that is from the end of May to the middle or end of August—by not cutting off any of the leaves in May and June; and by reducing the vigor of the plants a little, with having a crop of flowers, we kill three instead of two birds with the same stone. We have so many flowers; the leaves digest the proper food for the next crop at the proper time, the height of their growing season; and the plant is made to take a longer time before it makes a second growth; for the merest observer can perceive, that after a rose-bush has flowered it rests awhile, before it makes another attempt at growing; whereas when a plant is cut early in the summer it will not rest, as we have just seen, but makes a second growth in a hurry, flowers in a hurry, and will be ready by the middle of July to make a third instead of a second growth. It is true, that where roses do well, and where there are plenty of them, if one does not flower well after a few seasons of bad manage-

ment, another will which escaped the ordeal, or which had a stronger constitution, and the cause of failure in the first plant is overlooked; but when one's ground is very small, and the best is to be made of a limited number of plants, attention to small matters like this is really of some consequence.

I do not mean to say that the bad effects of a wrong system is to be seen the first or even in the next season, but depend upon it, sooner or later, it must and will tell; and that is the reason why we are so particular in asking our correspondents for the past history of such plants as they write to us about for cause and cure. By the time a rose-bush has finished its growth, and put off a crop of flowers, the bottom of the young growth gets hard or ripe; as then we say, or find, that the bark will not "run," if we want to bud on it; and at this stage, no matter what time of the season, the bottom leaves get hard and dry also; their office is in a great measure fulfilled, and *black specks* and *blotches* tell the fact; and here the young grower takes alarm; he thinks it must be something inimical to the health of the plant has caused the leaves to look so, but the healthiest oak leaf in the forest shows exactly the same symptoms at the proper time, and we think nothing of it; the frost is at hand, and down they come. Well, in August and September we do get frost at times, but not hard enough to cast down the ripened leaves on the lower parts of our rose-bushes; then it is that we ourselves should be so frosty-natured as to do the work instead—that is, pull off all the ripened leaves with the hand. We thus get rid of the contagion from the black and yellow blotches, and also let in the sun and air to play among the branches, by which they are ripened still more; and the fresh leaves above have also a better chance of doing their part more effectually. This, then, is the first process of September dressing:—the old, useless, dry, blotched leaves are stripped off, and we see where all the shoots have sprung from; also which of them are strong, and which are not. Such as are below a medium size are now cut right out: this gives still more light and air to the strong ones, and the sap that would go into the little ones must from hence find its way into the large ones; and if it does not make them still larger, it will add to their strength to flower better. Now we must look up among the branches, and find out those places where the first June blossoms were made, and here two or three weak or little shoots will be found also; and one or more strong ones which issued from a stronger bud lower down has taken the lead, and left the weak ones completely in the shade, and of course they can be of no use; therefore, the best plan is to cut them off also—cutting close to the bottom of the best leaders. This, in its turn, throws more sap, more air, and more light into and against all the strong leading shoots; and surely under all these advantages they

must flower better in the autumn, and ripen better for next year; and so they will. But we have not done with them yet; look now from above down among the branches, and if you cannot see the earth below, right through the bush, the branches are too thick, and you must thin them; and here a little knowledge of the sort of rose would be necessary to guide one. There are some of these autumn roses so strong—such as Madame Laffay and Mrs. Elliot—that if you were to cut out the smallest of their shoots, at this final stroke the very strong ones might not blossom; therefore, two or three of the very strongest shoots of such must be cut out, and the rest will blossom all the better; whereas the more dwarf varieties require the weaker taken off, and the strongest left to bloom. *Cottage Gardener.*

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TEA CULTURE IN FRANCE.—*French tea.* How well that phrase sounds! Shall we not believe that France may go hand in hand in the production of this beverage, so dear and indispensable to the English? At least, if we may believe M. Lecoq, one of our cultivators, this will certainly come to pass; and that it has not already done so, is only our own fault. To establish his opinion, he has exhibited, at the last horticultural exhibition, two kinds of tea of his own growth and preparation; one of which he calls *Souchong*, and the other *Gunpowder Green Tea*. M. Lecoq, who has devoted himself to the acclimation of the tea plant, which he is determined to bestow upon France *bon gré mal gré*, is confident that he is able to imitate all the qualities of the Chinese tea, and that the teas sent out from his establishment shall maintain their place by the side of those imported from the Celestial Empire. *Nous le verrons bien.* This worthy manufacturer intends to carry specimens of his teas to the great industrial exhibition next year in London. There they will, doubtless, demand a trial of them; and our neighbors are such good connoisseurs, that we are willing to submit our judgment to theirs. Whatever may be their decision, we cannot withhold the highest praises from the persevering experimenter; the only one, perhaps, who has seriously entered into the view—for some years entertained by the government—of introducing into France the culture of the tea plant, and the art of preparing its leaves for market. *Revue Horticole.*

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THE APPLE OF THE DEAD SEA.—The following is an extract from Curzon. He made a somewhat singular discovery when travelling among the mountains to the east of the Dead Sea, where the ruins of Ammon, Jerash, and Adjcloun well repay the labor and fatigue encountered in visiting them: "It was a remarkably hot and sultry day; we were scrambling up the mountain, through a thick jungle of bushes and low trees, which rises above the east shore of the Dead Sea, when I saw before me a fine plum tree, loaded with fresh-

blooming plums. I cried to my fellow-traveller, 'Now, then, who will arrive first at the plum tree?' and as he caught a glimpse of so refreshing an object, we both pressed our horses into a gallop to see who would get the first plum from the branches. We both arrived at the same moment, and each snatching at a fine ripe plum, put it at once into our mouths, when, on biting it, instead of the cool delicious juicy fruit which we expected, our mouths were filled with a dry bitter dust, and we sat under the tree upon our horses sputtering and hemming, and doing all we could to be relieved of the nauseous taste of this strange fruit. We then perceived, and to my great delight, that we had discovered the famous Apple of the Dead Sea, the existence of which has been doubted and canvassed since the days of Strabo and Pliny, who first described it. Many travellers have given descriptions of other vegetable productions, which have some analogy to the one described by Pliny; but up to this time no one had met with the thing itself, either upon the spot mentioned by the ancient authors or elsewhere. I brought several of them to England; they are a kind of nutgall. I found others afterwards on the plains of Troy; but there can be no doubt whatever that this is the Apple of Sodom, to which Strabo and Pliny referred." Surely if the traveller, who found what he considers to be the "Apple of Sodom," had been a botanist, he would have been able to have told us more about the fruit than that it was a kind of nutgall. Has it been ascertained what plant it is that bears such apples? *Gardeners' Chronicle.*

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THE GOOSEBERRY.—It being the period for planting this very useful fruit, which is, indeed, a favorite with everybody, and, what is more, equally within the reach of the peer and the peasant, we will offer a few remarks, first premising that our main purpose will not be to discuss the merits of what are termed "show gooseberries," but to point to some of the best kinds for cultivating in the amateur or cottager's garden. Of course, flavor is the great consideration with regard to dessert kinds; without this being first rate, it is sheer nonsense to cultivate them; as high flavored kinds are to be had amongst all the colours, and of both *early* and *late* sorts. Finesness of skin is, moreover, a recommendation; and for this reason most of the huge kinds emanating from the Lancashire growers are rejected by all good gardeners, so many of them proving exceedingly coarse, albeit many possess very good flavor. They are, however, very liable to burst in rainy seasons, and being mostly middle season berries, the birds are apt to make sad havoc amongst them.

Next to flavor we must consider how to provide distinct colours—a few of each class; for it is scarcely necessary to add that those who like to enjoy a daily dessert, will naturally like a

change of colour, which, indeed, generally involves change of flavor. It sometimes happens, too, that when several dishes of fruits are required on the table, there may be room for a couple of dishes of gooseberries; how nice, then, to have two kinds, decidedly distinct both in flavor and in colour, and the latter of a decided character. Thus, suppose a dish of the fine yellow Rockwood's and a dish of the Green Gage, or, it may be, the Red Champagne; which latter is, indeed equal, if not superior, to some grapes.

LATE HANGING KINDS.

1. *Warrington*; hairy red; known also as Aston Seedling.
2. *Pitmaston Green Gage*; green; this is noted for shrivelling in the raisin character on the tree.
3. *Taylor's Bright Venus*; white; also a shriveller.
4. *Coe's Late Red*; accounted a good late berry.
5. *Champagne Red*; very rich, and of upright growth.
6. *Champagne Yellow*; very rich, and upright.

The above we can safely recommend for trellis purposes, or, indeed, for general culture, as dessert fruit.

KINDS OF GENERAL UTILITY.

7. *Rockwood's Hairy Yellow*; early.
8. *Leigh's Rifleman*; red hairy; rather late; great bearer.
9. *Green Walnut*; green smooth; great bearer.
10. *Whitesmith* (Woodward's); white; good flavor.
11. *Keen's Seedling*; much like Warrington, and rather earlier.
12. *Roaring Lion*; red smooth; great bearer.
13. *Glenton Green*; a very good hairy green.
14. *Heart of Oak* (Massey's); green smooth; good bearer.

Now, we are perfectly aware that there are many other good and useful kinds in the country; these, however, we have grown—most of them for years; they may, therefore, be relied on for general use. It may be remarked, that they are not exhibition berries; that is to say, not fit to compete in point of mere size. We would recommend particular regard being paid to Nos. 1, 4, 9, 11, 12, 14, as great bearers, and generally adapted to kitchen use. Although No. 1 is always a good table fruit, No. 12 is particularly adapted for early tarts or puddings; we would not, however, grow many bushes, as they soon burst or decay. Perhaps of all the kinds known, none are so generally useful as the Warrington. We must here observe, that we had forgotten to name the old *Rumbullion*, which is still the favorite with many for bottling purposes—possessing much fleshy pulp in proportion to the amount of seeds, which appears to be the necessary qualification with our clever housewives. *Cottage Gardener*.

GOD IN THE FLOWER.—All the difficulties which I had ever heard infidels urge against Christianity occurred to me with tenfold strength, until my whole imagination was possessed with a fear that nothing existed which was not cognizable by the senses. I shuddered, and was agonized at the thought, and struggled to cast it from me as the most horrible of sins. Still it assailed me again and again, and I was foolish enough to suffer my mind to dwell upon such ideas, though I did not willingly consent to them or embrace them, and never ceased my ordinary devotional exercises. I strove, indeed, to pray, and with my *ut* I did pray; though it was with the utmost difficulty I could realise the fact that I was speaking to such a being as God. Long time my mind continued to wander, and be agitated with storms of thought. By and by, mechanically, I plucked a flower that grew by my side, and looked intently at its structure, scarcely knowing what I was doing. I pulled it to pieces, and examined its minute structure, and admired the exquisite beauty of its delicate tints, and thought of the marvellous organization, by which it was brought to the perfect state in which I saw it. Then, with the rapidity of lightning, an overwhelming thought struck me, and pierced me through and through. This flower, I thought, is but one of millions and millions and millions. And I strove to conceive of the multitude of flowers and leaves which I *knew* to exist in this earth alone. Often and often as I had pondered on the countless multitude of individual plants and animals which exist, never before had the fearfulness of that multitudinous quantity so completely seized upon my mind. I looked upwards into the branches of a vast oak, under which I was sitting, and beheld its myriad leaves sparkling in the sun, and waving beneath the breeze. The boundless complication of the organization which was employed in the structure of that single tree absolutely appalled me. It came like an avenging power, and smote my intellect to the earth. I positively trembled at the contemplation of the wisdom, the skill, and the power which was exerted by the Creator of those gigantic boughs and innumerable leaves. Then it seemed as if a voice said to me, "What greater miracle than this is there in the faith thou art despising and disbelieving?" In a moment the madness of my pretending to criticise a religion because its mysteries were unfathomable, struck me with overwhelming force. There, before my eyes, I saw that which baffled all my utmost comprehension. What cannot *He* do, I thought, who made this tree? Then there swept across my brain a recollection of the truth, that this tree was but one of such multitudes, that mortal mind cannot even conceive their number; and that the Omnipotent agency which I saw at work in the flower in my hand, was equally exerted through the minutest details of every individual vegetable in creation; and yet, that all these wonders were

hidden from almost all my fellow-creatures, and, as far as man is concerned, were seemingly useless, and a waste of Divine power and wisdom. The more I reflected, the more insane did it appear that such a being as I, or any other man, should presume to criticise a faith which, in my calmest moments, I knew was supported by unanswerable proofs. I perceived that the frightful

thoughts which had been haunting me were but fond and foolish deceits, impressions made upon my imagination, and snares from which, as a rational being, I was bound to flee. Nevertheless, a terrible agitation still possessed me; and all I could do was to cry aloud, again and again, "O God, have mercy on me; for I am nothing, and thou art all in all!" *Capes' Sunday in London.*



COVERING HALF-HARDY PLANTS.—After making trial of straw, evergreens, and various other things, as a covering for half-hardy trees and plants, I have ascertained to my satisfaction that boxes or old barrels are much preferable, when they can be used. An old barrel, with one head knocked out, turned over a favorite plant or shrub, with the north side raised an inch to admit the air and light, by placing a stone under it, affords the most perfect protection to most things that require it in winter. I have found that delicate things, such as carnations and tender roses, that perished when covered with litter or straw, pass the winter quite uninjured in this way. Yours, *An Amateur. Northampton, Mass.* [The dryer a half-hardy plant can be kept in winter, the less it will suffer from the frost. Hence the superiority of boxes or barrels to straw or litter—the former shedding most of the rain—the latter absorbing and retaining it. ED.]

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WHAT IS THE BEST FRUIT ROOM?—A correspondent in Ohio, has written us a long communication, detailing his experiments in keeping fruit under different circumstances, and asking a minute plan for a fruit room.

Our views on this subject may be very concisely given. The best possible place for keeping fruit, is a perfectly dry cellar, or building below ground, which should have all the qualifications necessary for a wine cellar—that is, it should not have a particle of dampness about it, very little light, and the temperature should vary as little as possible all the year round. In such a cellar, fruit may be kept perfectly sound for double the usual length of time—either in barrels, or boxes, or in

bins or upon shelves. Wherever a proprietor has a dry, gravelly soil, such a fruit cellar may be constructed with very little trouble. In such places a pit may be dug and lined with logs, if they are cheaper than stone or brick walls.

It should be remembered that it has lately been discovered that all rottenness in fruit is owing to the attack of a *fungus*, which propagates itself and spreads rapidly from a decaying fruit to a sound one. Hence the necessity of examining fruit in fruit rooms frequently, and taking away all such as show the least marks of decay.

When we were in the gardens of Mr. RIVERS, in England, we saw an admirable fruit room for preserving fruit. It was an old vault, in the side of a dry bank. Fruit kept there with the least possible care—and we tasted a very good winter pear, quite sound and perfect, which had remained on the open shelf in this fruit room, from November till the month of August.

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QUICK LIME IN OLD GARDENS.—A correspondent at Norwich, Ct., inquires, "whether quick lime would be useful in an old and long cultivated garden, and how it operates."

Quick lime is exceedingly useful, when applied to old garden soils. Such soils are glutted with half decomposed vegetable matter, roots and fibres of previous crops, and insoluble and inert portions of manure, so accumulated during a long time, as to render the soil "sour," as the gardeners say. It acts by decomposing all such material, and combining with all excess of humors, and rendering the soil sweet and fit for the active growth of plants. Nothing so wonderfully restores the original fertility of an old and long cul-

tivated garden, in which, though the soil has grown dark with repeated manuring and continual cultivation, many vegetables and fruits do not thrive as they once did, so quickly as a moderate dressing of caustic lime—applied when the ground is broken up, (at the rate of 150 bushels to the acre) and is to lie for a short time in that state—either in the fall or spring.

WOOLLY APHIS.—The woolly aphis (or "American blight,") has made its appearance in some orchards in this vicinity. Diluted sulphuric acid has been applied, but it proves more destructive to the trees than the insects. The same application, still further diluted, so as to be harmless to the trees, leaves the insects uninjured. Any advice upon this subject will be thankfully received, experiments made pursuant thereto, and the result communicated. *J. B. Keeseville, N. Y., 10th mo., 26th.*

The easiest mode of destroying this singular insect, is by painting over those trunks and branches of the trees covered by them, with a thick paint formed of yellow *clay*, mixed with water into such a consistency or thickness that it may just be laid on easily with a brush. It should be well brushed into every crack and crevice where the insect is, and a single application will be found quite effectual, without doing the least injury to the tree.

ORCHARDS ON NORTH SLOPES.—*Mr. Editor:* I believe when a person of little experience or knowledge in Horticulture, sets about planting an orchard, or even a fruit garden, he invariably selects a southern aspect, a south slope, or even the south side of a hill.

Perhaps you will allow an orchardist of three score years' experience, to offer his opinion on this subject. It is, that invariably, in the Middle States, the northern aspect, and even the north sides of hills, make the finest sites for orchard planting.

I have had many occasions of verifying this, both on my own premises (where I have now four orchards) and in other situations where the site has been accidentally selected—without design on the part of the planter. In every case (unless the soil be unsuitable) the orchard in the northern aspect has proved more healthy, vigorous, productive, and much freer from disease and longer lived, than orchards in the same neighborhood on the southern side of hills.

I think the popular impression which gives a preference to the southern aspect, arises from a supposition that the greatest possible heat and warmth are necessary to ripen the fruit, &c. This is a mistake. The amount of solar light and the mean temperature of the air and soil, are the same on the north as on the south side of hills, and upon these the maturity depends. On the other hand, the excessive accumulation of heat in mid-summer, in exposures directly southern, not only

parches up the soil and enfeebles the tree, but promotes the attack of all manner of diseases and insects. On the south side of a hill, every excess of heat and cold is experienced in its utmost; while on the north side the uniform temperature of the soil is much more certainly maintained, and the health of the tree greatly promoted thereby. Yours, *D. Chester co., Pa., Nov. 12, 1850.* [Excellent advice, which we fully concur in. The only person in our neighborhood who has regular and abundant crops of apricots, gets them from trees planted on the north side of buildings, where they get only the morning and evening sun—and yet the apricot is the tree which experienced planters always feel obliged to put in a warm, sunny spot. Ed.]

STOVES AND VENTILATION.—*Dear Sir:* I have read, very attentively, your remarks on the effect of stoves on our health and complexion. Being fully aware of the truth of what you urge respecting the necessity of ventilation, but being one of those unfortunates, obliged, for at present at least, to use stoves, will you not oblige me, and perhaps many others, by telling us more definitely, where the cheapest and best ventilating apparatus for a room can be had, how much it costs, and how it should be put up, so as to give us a supply of fresh air, or carry off that which is impure. Yours, *A "Pale Countrywoman," Rochester, N. Y., Nov. 8, 1850.*

ANSWER.—With pleasure. The best cheap and simple ventilating apparatus for a room, is *Dr. Arnott's chimney valve*. It is manufactured and kept for sale at Chilson, Allen, Walker & Co.'s, 351 Broadway, New-York. Its price at retail is \$3, and it may be fixed in any room where there is a chimney flue, by a mason, who will cut a hole through the chimney breast into the flue, and insert the chimney valve—which may be done in half an hour, so as not to disfigure the wall in the least. Ed.

WISTARIA SINENSIS.—Being highly delighted with your description of this beautiful climbing vine, in the June number of the Horticulturist, 1847, I was induced to put out two in the spring of 1849.

I had the border well trenched, and manured from an old hotbed. I then procured two cedar posts, with limbs shortened for the vines to twine around, and carefully set out the roots. Opposite to the Wistaria, I put the Queen of the Prairies rose.

Every day during the summer, I examined the Wistarias, hoping to see them starting into luxuriant growth; but will you believe me, sir, after leafing out finely, they did not grow an inch. The ground was kept mellow and very clean with hoeing.

This spring I had put near their roots two handfuls of ground bones to each, as likewise to the Prairie roses, and thinking I might have been in error in keeping them so clean and the ground so

loose as last year, I had them shaded with myrtle, petunias, &c. But there they are—the Wistarias—just as much wood as when they were first planted and no more.

Surely our summers are hot enough, and winters not too severe for the plant. In New-York city, in May of this year, I saw one plant that was above the third story windows of a brick house in 13th st., in full bloom; and a charming sight it was. Every day for two weeks (nearly,) I walked past that house to see it, and each time I thought it more beautiful than the last. I wished very much to go in and thank the mistress of the house for the pleasure she had given me.

I may add that this past summer the Prairie roses planted at the same time with the Wistarias, have made *fourteen feet* of new wood.

This fall I have had one of the Wistarias taken up, put in a large sized box, and removed to the vinery. M. *Oneida county, Nov. 2d, 1850.*

N. B. In the city of Utica, the Wistaria sinensis does no better. The vines were laid down and protected.

P. S. If any of your readers wish to know the cost of erecting a grapery, 40 feet by 20, in the most economical manner, I can inform them.

REMARKS.—The climate should suit the Wistaria at Utica, and at any rate would not prevent its growing luxuriantly in summer. That the soil was well prepared to promote vigorous growth, the fourteen feet shoots of the Prairie roses abundantly prove.

We have seen precisely such *behaviour* on the part of young Wistaria plants before, and think we can explain the matter.

The Wistaria is usually propagated by *layers*. If a layer is made by bending down the long and healthy shoots of the vine, and causing it to take root, every plant so raised will grow with all its native luxuriance—that is, some 8 or 10, or sometimes 15 or 20 feet in a season.

But if a shoot, which has been a *flowering* shoot for some seasons, is laid down and made to become a young plant, the plant so raised rarely or never sends out luxuriant shoots. In fact we have seen such plants live year after year, and never rise above a foot or two high—never, in fact, take their natural habit as a vine. Such is, no doubt, the case with the two roots purchased and planted by our despairing correspondent. He had better dig them up and throw them away, as he might as well hope to make a six foot Kentuckian of TOM THUMB, by high feeding, as to get his cedar poles covered by these layers—stunted in their origin, by having been raised from blossom spurs instead of growing buds.

If any of our nurserymen who propagate this plant are ignorant of this fact, they should quickly learn it, and all buyers of Wistarias should remember it, and reject plants that look dwarfish and show no disposition to run. Ed.

CUTTINGS IN BRICK DUST.—I have had great success in propagating plants lately—especially the more tender kinds of green-house plants. As I think my good luck depends not so much upon the treatment as the *material* I use, I beg you to “make a note of it,” for the benefit of your readers.

This material is brick dust—the refuse of the kiln after burning—or what may be made by taking soft bricks and pounding them up. Enough may be had at any brick-yard for a mere trifle, to last a great while—but I think the fresher it is the better. For those plants more difficult to root, such as Daphnes, Heaths, Cape Jasmines, &c., I fill shallow cutting-pots entirely with brick dust, (except about an inch at the bottom, which is filled with coarse lumps of brick, to secure a good drainage.) For plants that root more easily, I use half brick dust and half sandy loam.

It is quite surprising how much more certainly and quickly cuttings of all sorts root in brick dust than in sand, or in loamy soil, in the common way. “Damping off,” which is so fatal to cuttings made in the ordinary way, rarely happens when brick dust is used, and from the mass of fibre quickly thrown out from the bottom of the cuttings, I am convinced that there is something more than the texture of the brick dust which causes the much greater vigor and success of cuttings planted in brick dust, over those planted in the ordinary way. *A Jerseyman. Jersey City, Nov., 1850.*

We have heard of burnt clay having been used for striking cuttings with great success, and the brick dust probably acts in a similar manner, *i. e.* absorbing a large supply of *ammonia* from the air, and giving it out as food to the cutting, while its dry and gritty texture facilitates the granulation of organizable matter, and the emission of new roots. Ed.

TRANSPLANTING CEDARS.—*Dear Sir:* I offer to make a bargain with you: I have a number of healthy, middle-aged-looking cedar trees, growing about here in places where they are not wanted, which I wish to move to a place where they are wanted—to hide an old building.

My offer of a bargain is this: If you will let me know how to go about moving them, I will let you know the result of my attempt. *J. Bristol Township, Philadelphia co., Nov. 8th, 1850.*

ANSWER.—The thing has been most successfully done already, in sight of our library window. Our neighbor, Dr. A. G. HULL, transplanted last winter, a number of “middle-aged cedars”—trees about twenty years old—which now form a group on a hill side in full view from where we write, with the most perfect success. The trees, (whose trunks will average 25 to 30 inches in circumference) though moved perhaps a mile or more from the spot where they stood a year ago, now look quite as well as if they had never had a fibre touched.

His process was the simple one often recommended in this journal as the best possible for evergreens, viz: moving them in winter, with frozen balls of earth. A ball of some 6 or 8 feet diameter was moved with each of these trees—the ball with a tree upright, being placed upon a strong, low sled, made for the purpose, and dragged to the new locality by oxen. Ed.

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OSWEGO HORT. SOCIETY.—The November exhibition of our Horticultural Society, the last of the season, was held in this city on the 8th inst. I send you a brief report of proceedings.

In the floral department, not much was done; but the few pieces presented were choice, and arranged with taste. The committee awarded to Miss V. Fitch, the first premium, \$2—to Miss E. Fitch, \$1—and discretionary premiums to Misses Marsh, Hatch, and others.

There was a large and fine lot of vegetables—among these were prime cauliflower and salsify. Whole amount of premiums on vegetables, \$16.50.

Of fruits, there was a pretty generous supply. Apples in abundance, and unusually large and fair—extremes meeting, in the shape of huge Ox apples and the delicate little *Api*. The largest number of varieties shown by one individual was thirteen; but this deficiency was made up in quantity. Some of these deserve a passing notice. The best apples (in eating) were the Fall Pippin. There were fine Spitzenbergs, Swaars, and Roxbury Russets, the first named taking the premium as the best winter. I noticed for the first time, the Newtown Pippin—the *genuine*—from the orchard of Mr. Fort; but this variety, with us, must yield to those I have named. It does not possess the flavor and beauty of our Spitzenbergs and Swaars, and does not yield as abundantly. Among others, was the Westfield Seek-no-further—first-rate—and Pomme de Neige, about second-rate.

Of pears there was not a great variety, but the finest was very superior. Mr. Bronson gave the Seckel, Prince's St. Germain and Glout Moreeau; Mr. McWhorter, the Virgalieu. Among the varieties contributed by Mr. Worden, were Bezi de la Motte, Knight's Monarch, Beurre d'Arenberg, Passe Colmar, Beurre Diel, and Winter Nelis—each sort by the dozen or more. Of these the Winter Nelis was the best, but with us it can scarcely claim to be a winter sort. Mr. Worden's specimens, though kept with care, were perfectly mature; and I believe they never keep beyond November. The most beautiful pear was the St. Mismein, a variety cultivated by Mr. Mollison. Its flavor, too, was first-rate; pronounced by good judges equal to the Doyenne. With the exception of this, all the pears contributed were grown on standards.

In this season of vigorous and unprecedented growth, fruits have obtained unusual size, and have come to early maturity with us; but varieties that are variable in quality, have been second or

third-rate. This has been the case with Beurre Diel, Julienne, Frederick of Wurtemberg, and others. The best pear we have had this year, is Gansel's Bergamot, and by dint of severe pruning have succeeded in getting a fair crop.

Of grapes, I noticed but two kinds worthy of mention—Isabella and Sweetwater. The finest Isabellas were from Mr. Bronson's garden—picked on the 8th inst.

These exhibitions are getting quite popular with us—all classes taking a deep interest in them. The surplus, after paying premiums and expenses, is invested in a library, of which we have made a good beginning. I subjoin a list of premiums:

Grapes.—Best half doz. clusters, Isabella, A. Bronson, \$1. Second best, do. do., D. B. Blair, 50 cents. Greatest number varieties, F. T. Carrington, \$1.

Pears.—Best 12 Virgalieu, G. H. McWhorter, \$1. Second best, Beurre d'Arenberg, S. Worden, 50 cts. Greatest number varieties, S. Worden, \$1.

Apples.—Best 12 autumn, Fall Pippins, J. Gray, \$1. Best 12 winter, E. Spitzenberg, J. Pierce, \$1. Greatest number varieties, S. Worden, \$1. Second do., discretionary, H. V. Weekes, \$1.

Quinces.—Best 12 Orange, Mrs. C. J. Burekle, \$1. Second best do. Pear, H. V. Weekes, \$1. *J. M. Casey, Rec. Sec'y Oswego Hort. Soc. Oswego, Nov. 13th, 1850.*

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HEADING BACK TRANSPLANTED TREES—Dear Sir: I read an article of yours with the *pro* and *con*, respecting heading back the limbs of forest or ornamental trees when newly transplanted, a couple of years ago, when I was about to undertake something of a job of this kind—nothing less than removing about an hundred elms and other trees from the forest. They were about 18 feet high, with stems as large as a man's arm. Of course the roots were a good deal abridged, for it is next to impossible to get all the roots, or in fact more than two-thirds of them, when you take trees from rough meadows and forests. I say I read your article—and though I believed, I still was reluctant to reduce the tops of the elms—they were so handsome. I concluded, therefore, to test the question fairly by experiment. I planted 15 trees with the tops entire; 15 others I reduced at the top, so as to bring the roots and tops into a "balance of power," as you suggest. In other words, if the ends of the roots—measuring from the centre mass or ball—had, in the process of digging them up, been cut off one-third, I cut off one-third of the length (measuring from the fork where the branches started out) of the branches.

I lost but few trees of the whole hundred, but there is a very marked difference in their growth. More than half of all the trees planted with their heads entire, have made little or no growth the first year, and only a tolerable growth the past summer. I have also had to cut out many limbs

in those trees, that have gradually died for the want of nourishment. The leaves of these trees were also very small the first year, and scarcely reached their full size this year, though the trees are evidently "doing well" now.

The 15 elms that had their branches cut back one-third of their length, give a very different account of themselves. They—every one of them—put out leaves the first summer after they were planted, at least three times as large as the unpruned trees. They also made vigorous shoots the first year, and still more luxuriant ones this year; so that they have now not only entirely regained the symmetry and beauty of their heads, but are so much more luxuriant and vigorous than the others, that the thing is quite surprising to look at.

You will believe, after this experiment, that I have seen the weakness of keeping every limb entire on newly planted trees. I never plant a tree of any kind now, without shortening back the ends of the limbs, more or less—and as a good practical hint can never be repeated too often, I beg you to print my humble experience—that others may, if they wish to make use of the best mode, go and do likewise. Yours, A. C. W., Philadelphia, Nov. 1st., 1850.

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A. J. DOWNING, Esq.—*Dear Sir*: I send you herewith attached, an outline and description of the Bailey Spice apple. I should have sent you specimens of the fruit, but supposed you would be absent from home at the time the fruit was in perfection. For its merit I refer you to the Journal of the N. Y. State Agricultural Society of this month, and report of the Fruit Congress last fall.

The original tree is now growing in my grounds, and was planted over fifty years ago by my grandfather, Capt. NATHANIEL PLATT. It is a great bearer, and I think I never knew an apple so invariably fair and perfect, as this. I remain, sir, yours, most respectfully, J. W. Bailey. *Plattsburgh, Oct. 26th, 1850.*

BAILEY SPICE.

Size—Medium, being usually $2\frac{5}{8}$ inches broad, by $2\frac{1}{4}$ inches in depth.

Form—Round ovate, tapering a little towards the eye.

Exterior Color—Light yellow, sometimes with a faint blush; *always fair.*

Texture—Fine-grained, tender as well as firm; juicy.

Color of Flesh—Yellowish, with a slight greenish tint.

Flavour—Subacid, sprightly and spicy.

Core—Large and open.

Seeds—Plump; light brown.

Stem—One and a quarter inches long, sennae, set in rather a deep cavity.

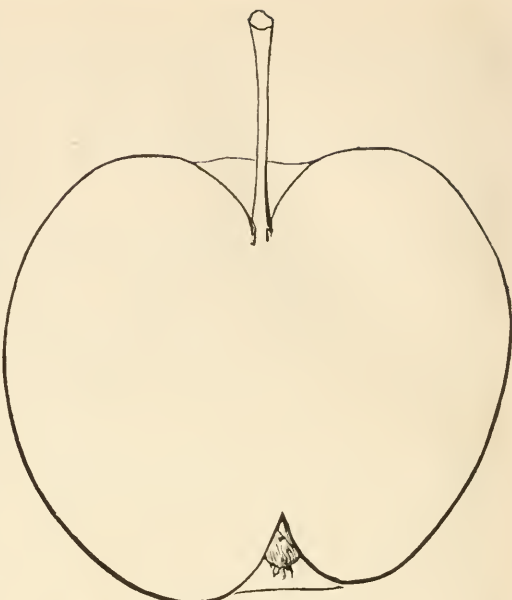


Fig. 60.—Bailey Spice.

Eye—Closed, set in a narrow basin of medium depth.

Season—From 20th September to 20th October.

Growth—Moderately vigorous; wood is smooth; young shoots reddish brown and downy; foliage light.

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NOTES ON RARE ORNAMENTAL TREES.—*My Dear Sir*: In addition to the rare trees you mentioned, in your article upon Rivers' nursery, in the October number of the Horticulturist, will you allow me to suggest the following, as well worthy the attention of those planters who are desirous of forming valuable collections?

Berberis canadensis, with yellow pendant flowers.

Tilia glabra vert, with immensely large foliage

Acer obtusatum.

Acer monspessulanum

Acer illyricum.

Acer pseudo platanus, variegated.

Robinia pyramidalis.

Robinia umbraculifera tortuosa. This is a very peculiar variety of the French Parasol Locust

Lathyrus latifolium.

Sophora variegata.

Cytisus alpinus.

Cercis siliquastrum.

Cerasus Lamo cerasus.

Rubrus spectabilis variegata.

Sambucus nigra laciniata—very fine foliage.

All the above are perfectly hardy in the Botanic Garden at Geneva, in Switzerland, and could be procured, I presume, of some of the Swiss nurserymen.

At Booth's gardens, near Hamburgh—a climate much severer than ours, (as it will not admit of the cultivation of the peach,) there is an extremely pretty climber—the *Tropeolum pentaphyllum**—which stands their winters unprotected. I saw there also an evergreen *Cupressus disticha*—certainly one of the most graceful of evergreens, which is uninjured by the severest weather. There is also there a curious ash—*Fraxinus hctrophylla*—and also a birch—*Betula pendula laciniata*, which is exceedingly graceful and delicate. Two pretty additions to our weeping trees, are *Cotoneaster buxifolia* and *Cotoneaster microphylla*, if trained up to a standard of four or five feet, and then allowed to fall down from a head, instead of being grown bushy, as is usually the case.

Bachelor's Buttons, Four o'clocks, and Chrysanthemums are planted in masses by themselves in the German gardens, with good effect. Yours with much regard, *H. W. Sargent. Wodenethe, Fishkill Landing, N. Y., October 18, 1850.*

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TASTE IN LANDSCAPE GARDENING.—To an American eye, the charm of European gardens is rather owing to the novelty of their natural productions, than to the style of their arrangement. The grand scale of our scenery renders all tricks paltry by comparison; and the artificial substitutes for natural diversity, give a scenic, rather than a picturesque effect. The elegance of Versailles is apparent and unrivalled; but this quality rather offends than delights, when applied to external nature. At Rome, the clipped, dense evergreens, weather-stained marbles, and humid alleys of the Villa Borghese, do not win the imagination like the vast, uncultivated campagna. A fine English park, with smooth roads intersecting natural forests, is more truly beautiful than a parterre surrounded by fantastic patterns of box, or studded with bowers and temples, like the back scene of a play. The famous villa of the eccentric nobleman near Palermo, assures the traveller to what an extent a love of the grotesque may be carried in converting a residence of fine natural capabilities into an architectural and horticultural museum. Indeed, all experiments in this field of human ingenuity, simply prove that the judicious adaptation of natural advantages to beautiful and useful results, is all that can be wisely attempted. A clearing here, a path there, filling up a hollow, levelling a hill, letting in sunshine and shutting out the view of deformity—in a word, modifying the primitive aspect, and not substituting art for nature, is the sign of a healthful taste. Such is the Anglo-Saxon tendency as manifest in their noble appreciation of forest trees by EVELYN, and in the absence of the finical in most English and American homesteads. A disposition to decorate nature is altogether French; and its appearance on the other side of the channel, has always been

coincident with periods of conventional taste in society and letters. The formal elegance of a French garden or villa, differs from the picturesque exuberance of an American woodland or an English meadow, just as SHAKESPEARE differs from RACINE. The one lays open nature for our cordial recognition; the other trims her after a classic or fanciful pattern; the one abounds in suggestion, the other in technicalities. *Tuckerman's Characteristics of Literature.*

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TO MAKE YOUNG PEAR TREES BEAR.—MR. DOWNING: I was afflicted by the sight in my garden, for 4 or 5 years, of the most luxuriant and thrifty young pear trees, which would not bear, but all their strength ran to wood. Vexed at this, I resolved to try the effect of *bending down* the branches, so as to check the flow of sap and cause them to form fruit-buds instead of wood-buds. Accordingly, the first week in Dec., 1847, I filled my pockets with stout twine; I drove down some pegs into the ground underneath my trees, (which had branched low, so as to make dwarfish heads;) I then tied a string to the end of every long shoot, and gradually bringing down the end of the limb till it curved down so as to make a considerable bend or bow. I fastened it in that position, either by tying the other end of the string to the peg, or to another branch or a part of the trunk.

According to my expectation, the tree next year changed its habit of growth, and set an abundance of fruit-buds. Since that I have had plentiful crops of fruit without trouble—taking good care not to let many branches go on the upright system. *A Delaware Subscriber.*

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PROTECTING TREES AGAINST MICE.—Many are the remedies that have been proposed, to guard trees in winter—especially fruit trees—from being girdled by field mice. The simplest of all is the following, strongly vouched for by an experienced and reliable cultivator, Mr. THOMAS, in the Albany Cultivator:

“Prevention of this disaster,” says Mr. T., “is one of the easiest and most certain things in the world, consisting simply in throwing up a little circular bank or mound of earth, around the trunk of each tree, nine or ten inches high. One man will do hundreds in a day, and we have never known a single instance, out of thousands of cases, where it has failed.”

ANSWERS TO CORRESPONDENTS.

PRESERVING BULBS.—*W. Otis, (New-York.)* Hang the Tiger Flower and Gladiolus roots up in the cellar for four or five days, until they are dry, and then cut off the tops and pack the roots away in a box, with an inch or two of perfectly dry earth or sand over and under them. The box (with a lid to it to prevent mice, which are very fond of Tiger Flowers, from devouring them,) may

* This is well known in our green-houses, and we are delighted to hear that it is *hardy*. Ed.

now be put in some dry place, out of sight in the green-house, or in the cellar, if you have one quite free from frost. If you dry your Dahlia roots, by letting them stand in an airy place for a few days before you put them away, you will not lose any. They will keep perfectly well afterwards, upon a shelf in the cellar, or on the top of potatoes in the bin, if no frost gets there.

DRY CELLARS.—*W. Avery.* Of course, in building, you must provide a drain to the basement; and if you wish to make the walls perfectly dry, in a damp sub-soil, you had better lay them up with mortar, made with *Hydraulic cement*, instead of common lime. Of course, you will fur-off before lathing the inside walls.

A FEW GOOD FRUITS.—*P. R. S.* (Baltimore.) Plant the following in your limited grounds: *Apples*—Early Harvest, Porter, Yellow Bellefleur, Rhode Island Greening, Newtown Pippin. *Pears*—Dearborn's Seedling, Rostiezer, Bartlett, Seekel, Paradise d'Automne, Beurre d'Anjou, Beurre d'Aremberg, Winter Nelis. *Cherries*—May Duke, Black Tartarian, Elton, Black Eagle. Downer's Late, Belle Magnifique. *Peaches*—Early York, George IV, Oldmixon Free-stone, Snow, Bergen's Yellow, Heath Cling. *Plums*—Rivers' Early Favorite, Yellow Gage, Green Gage, Jefferson, Purple Favorite, Smith's Orleans, Coe's Golden Drop.

A GOOD LAWN.—*W.*, (Philadelphia.) "The matter" with your lawn, that it turns brown in summer, is that the soil is thin, and does not bear the drouth well. If you will break it up and trench it 2½ feet deep, you may have a deep green lawn all summer. The roots must be able to run down below the reach of parching mid-summer heat, or you cannot expect the turf to remain fresh.

OLD PEAR TREES.—*A. M'J.*, (Buffalo.) Don't, for the world, cut down your pear trees. You are lucky to have them, though "they are 30 years old, and the fruit is universally sour." You should graft their tops all over with Bartlett, Onondaga, and Oswego Beurre, or some other good sorts that suit your climate; and in three or four years' time you may gather bushels of the best fruit from those very trees. April is the time for grafting, and the trees will do best if you graft the top or highest part of the head next spring, and the side branches the following season. It is better to put but one sort upon a tree, though there is no difficulty in grafting a dozen or more, if you desire it. *W. F.*, (Boston.) You have not succeeded in renovating the old Seekel pear trees in your garden, because you have thought it sufficient to give them top-dressings. Dig a trench all round the tree, remove as much of the soil as possible, and replace it with new soil, air-slaked lime, bone dust, &c., and you will meet with your reward.

VINES FOR VERANDAS.—*A Lady Reader*, (Louisville, Ky.) We recommend the following: Chinese Twining Honeysuckle, Chinese Wistaria, Queen of the Prairies Rose, Sweet Scented Clematis. If you wish to cover the long shed, use Virginia Creeper and the Trumpet Flower (*Bigonia*.)

GREEN-HOUSE PLANTS.—*A Novice*, (Pittsburgh.) Your Fuchsias, which have flowered finely all summer, and have now lost their leaves, will be much better off if you allow them to *rest* all winter, than if you excite them into new growth. If you have a dry cellar, where the frost does not enter, carry the plants there, and set them upon a shelf out of the reach of rats or mice. Let them go quite dry,—watering them only two or three times all winter. They will not mind cold, or even a slight frost, if quite dry. When they show signs of starting again, towards spring, take them out, pot them afresh, put them in the green-house or frame, and they will bloom much more abundantly than this year.—*A.*, (Chicago.) To give more gaiety to your little collection, you should have a stock of Chinese Primroses, Hyacinths, and Cinerarias, which will bloom continually from November to May. The first and last are easily reared from seeds, to be had at the seed shops. Sow them about June or July. Your Daphnes are yellow, from the want of the right soil. Take some sods, and roast or burn them on a brush heap, and chop them up fine; add to one part of this an equal part of decayed leaf-mould from the woods, and half as much fine sand. Turn the plant out of the pot, loosen or break the ball of earth, throwing away a good part of it. Re-pot it in the new compost, and it will soon put on a different aspect.

STIFF CLAY SOIL.—*T. Williams*, (Brooklyn.) Your garden soil, which is so stiff and unmanageable, may be much ameliorated, if at this season you will throw it up into ridges, and expose it thus to the action of frost all winter. Hard-coal ashes are an excellent dressing to make it light; and if you can get fresh stable manure, mixed with litter, have a good coat spread over the surface before ridging it, by which means it will become mixed with the soil, thus keeping it more open to allow the frost to penetrate, enriching it at the same time.

EDGINGS.—*R.*, (Poughkeepsie, N. Y.) One of the prettiest edgings is made by planting cuttings of the *variegated-leaved Euonymus*,—a shrub from Japan that is quite hardy here, and may be had in any of the nurseries. It is evergreen, and grows very thriftily. The leaves are green, edged with silver; it may be kept low by clipping, and is much less stiff than box.

NOTICE.

IN compliance with the suggestions of many of our subscribers, and believing it will be more satisfactory to the public generally, we close the Fifth Volume of the Horticulturist with the December number, in order that the future volumes may commence and end with the year.

The next volume (the 6th,) will commence with the January number, when we hope to make some important improvements in the mechanical execution of the work; and no efforts will be spared, by either Editor or Publisher, to render the work still more worthy of the liberal patronage it is receiving.

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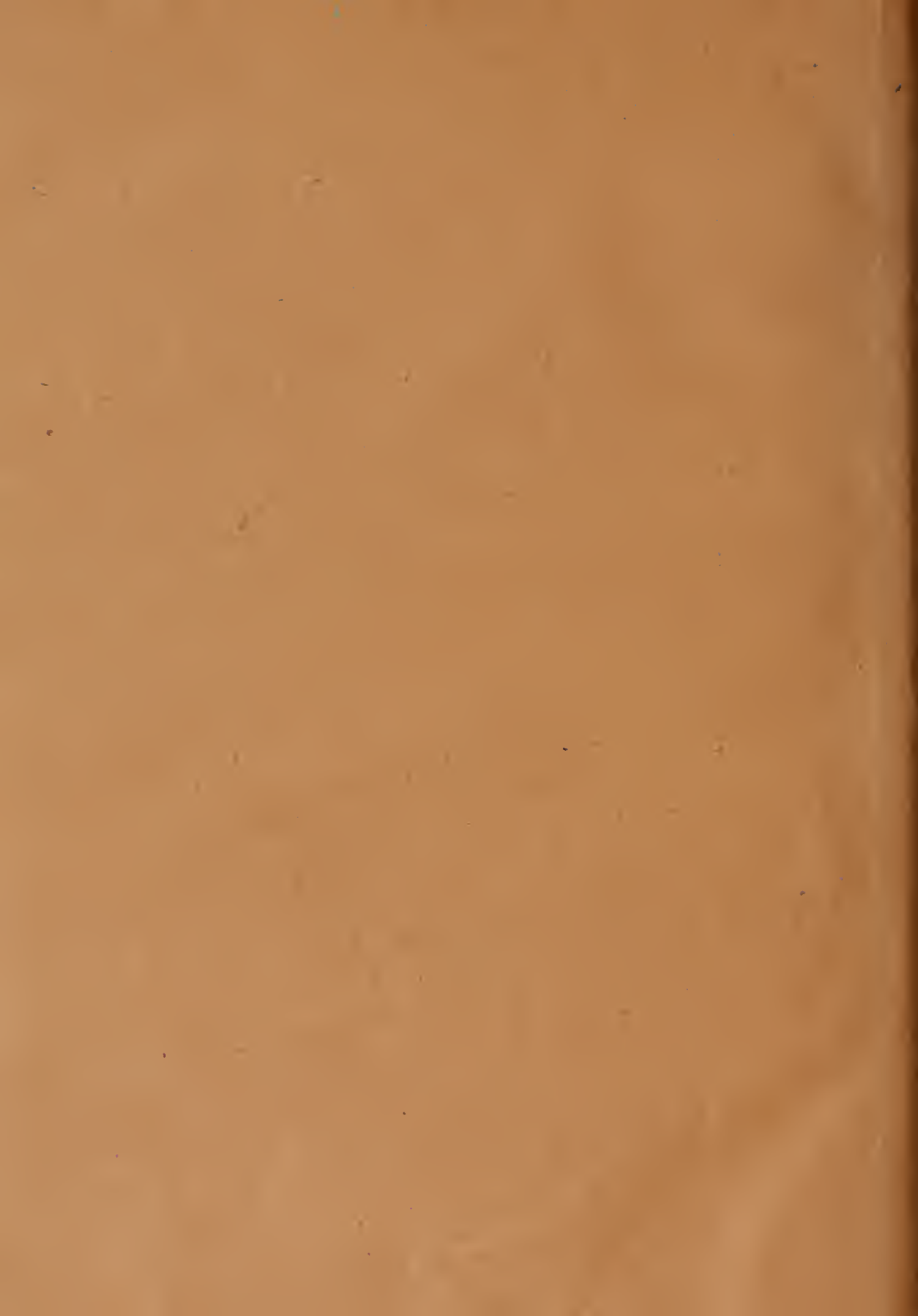
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